PERCEPTION AND ATTITUDE OF POSTGRADUATE STUDENTS ON INSTITUTIONAL REPOSITORIES: CASE OF ST. PAULS' UNIVERSITY IN LIMURU, KENYA

BY

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DECLARATION

I declare that this research is my original work and has not been presented in any other university/institution for consideration of any certification. This research has been complemented by referenced sources duly acknowledged. Where text, data (including spoken words), graphics, pictures or tables have been borrowed from other sources, including the internet, these are specifically accredited and references cited using current APA system and in accordance with anti-plagiarism regulations.

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DEDICATION

This work is dedicated to my family: my husband and friend Charles M. Mwangi and son Arthur Mwangi Mburu, for their understanding and patience throughout my studies. To my parents whose immense efforts to educate me, prayers and support has seen me this far.

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ABBREVIATIONS & ACRONYMS

CD   Compact Disc

DATAD   Database of African Thesis and Dissertations

DOAR   Directory of Open Access Repositories

IRS   Institutional repository

JKUAT   Jomo Kenyatta University of Science and Technology

KHRC   Kenya Human Rights Commission

KIPS   Kenya Information Preservation Society

KU   Kenyatta University

LVBC   Lake Victoria Basic Commission

NACOSTI   National Commission for Science, Technology and Innovation

PGS   Postgraduate students

PU   Pwani University

ROAR   Registry of Open Access Repositories

SPU   St Paul's University

SU   Strathmore University

UON   University Of Nairobi

ABSTRACT

Increased research output in academic institutions has led to generation of lots of research content, thus bringing about issues on storage and preservation of the research content, these has led to establishment of institutional repositories by institutions of higher learning. The aim of this study was to establish the perception and attitude of the postgraduate students of St Paul's University Limuru Campus towards IRs. The study was guided by the following objectives: to assess use of IRs by postgraduate students, establish users' perception and attitude on access of the content in the IR, to evaluate the perception and attitudes of users on relevance of the IRs and to find out the challenges facing use of IRs at St Paul's University. The target population was 160 respondents who comprised Masters Students from different courses offered, PhD students and library staff. The study used interviews and questionnaires to collect data. Data collected was analyzed both qualitatively and quantitatively. Qualitative data was presented in summarized prose and by precise discussion while quantitative data was presented using percentages, pie charts and bar-graphs. The study established the following findings:- that the IRs are inadequately utilized by the postgraduate students, that the content of the current IR has benefited the students but there is still negative perception and attitude towards the IRs among the postgraduates. The study also established that poor internet connection was a major concern to students who lamented that they used a lot of time trying to download and save the relevant content searched for from the IRs, this negated their attitude towards IRs. The study recommended that the ICT department of the university establishes a way of improving internet accessibility, which in return will improve the attitudes of a PGs towards use of IRs, lecturers contribution to content in the IRs would greatly improve the perception of students on the information available. Consequently the study drew the following conclusions: the content currently available in the IRs is sufficient but inaccessible in due poor internet connectivity therefore, cannot positively be embraced by the postgraduate students; the study also established that more awareness through institutional repositories sessions were necessary to enhance students skills on access to the IRs content.

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

This chapter presents the background to the study, statement of the problem, purpose of the study, objectives of the study, significance of the study, research questions, delimitations and limitations of the study, theoretical and conceptual framework and operation of terms.

1.2 Background to the Study

Institutional repositories are created to encourage scholarly communication outside traditional publishing models; they are channels for dissemination of research output and make it accessible to the wider academic community. The origin of IRs can be traced back to the mid-1980s in the USA, when the popularization of personal computers in organizations such as archives, libraries and documentation centres saw a change process characterized by transition from paper to electronic format. This assisted the development of institutional databases in general which led to significant growth in both the number of IRs and the quantity of digital objects deposited in them (Bonilla-Calero, 2013).

In India, Institutional Repositories disseminates rich sources of digitized materials drafted and published by institutions of higher learning. A few Academic libraries provide an Institutional Repository service to its users. This IR technology offers the Nobel laureates and researchers to deposit their work, which facilitates the target audience to access the research publications via digital platforms. In India most of the Universities adopt the

open source IR software for creating/developing their own repositories. Major documents deposited in Institutional Repository are theses, dissertations, conference papers, journal articles, reports and patents (Kumar, 2006). The essence of IR was to make research and development publications to be freely available on the internet. This initiative was directed to have an increased visibility of the research outcomes; further, this was to generate good deal of enthusiasm in advanced studies. Thus the institutional repositories were experimented by the Indian educational institutions and research institutes to disseminate their scholarly articles. In India there are number of reputed research institutes, which produce scholarly rich research documents every year and now have adopted the IR service in their homepages. With the mandate to bring together and preserve the intellectual properties of individual departments many institutes came forward to experiment this new service. Some of these institutions provide access to their research documents and learning materials initially to the Indian scholars in other institutions as well as to external scholars in institutions across the globe. The sharing of knowledge may lead to further development in the same discipline or related disciplines. Institutional repository has now become a platform for the sharing of knowledge.

A 2001 survey of scholars randomly chosen from nine colleges and universities in the United States and Canada sought to determine faculty participation in depositing content in IRs (Davis and Connolly, 2007). According to (www.doar.org, 2013), some developing countries such as South Africa, Nigeria and Singapore have a higher number of IRs compared to those in East Africa. This means that scholars in developed countries have greater opportunities of disseminating their research findings through IRs compared

to those in developing countries especially in Kenya. While there has been considerable attention dedicated to the development and implementation of institutional repositories, little has been done to evaluate user perception; most of the past studies have concentrated on establishment and development of IR.

In Kenya, development and implementation of IRs is increasingly gaining momentum in institutions of higher learning. Milimo (2012) points out that research output should be available, accessible and applicable as the only way to impact on the lives of the millions of Kenyans, and contribute to global innovation systems. This is being used as a pathway to access local scholarly content and increase visibility through open access policies by institutions of higher learning. Over the years several universities and other institutions such as University of Nairobi (UoN), Strathmore University (SU), Kenyatta University (KU), Pwani University (PU),St Paul's University (SPU), Jomo Kenyatta University of Agriculture and Technology (JKUAT) and institutions such as, Kenya Human Rights Commission (KHRC), Lake Victoria Basin Commission (LVBC), have established IRs (Milimo 2012).

At St Paul's University the IR was established in 2013 for the purpose of disseminating scholarly content generated from the university community (St Paul's University postgraduate centre). The IRs have faced several challenges including inadequate acceptability by the scholar's i.e. postgraduate users, low data bandwidth, poor user turn up for user education and to a great extent handicap in skills required to access the IR. Users quote lack of awareness about open access institutional repositories as one of the

major factor for not using IRs (Manjunatha and Thandavamoorthy, 2011). Despite the low awareness level, most researchers are encouraged to seek IRs as a first priority in their information seeking since IRs hold very recent and currents research information. Other issues are largely defined by their reward system and personal traditions, attitudes, perceptions and mind-set; this has led to low dissemination and implementation of research to the society. This study therefore, evaluated the perceptions and attitudes of users vis a vis the use of institutional repositories.

1.3 Statement of the Problem

The role of IR is to aid in dissemination of scholarly content. However, librarians perceive non-use of IR as a crisis in scholarly communication and on the other hand users perceives this essentially as a non-issue arguing that they can still rely on the conventional method to access the same or more of the research output (Milimo, 2012). User statistics at St Pauls reveal that there is low usage of IRs by postgraduate student. It is not clear why there is low usage. The issue under investigation is the reason behind low use of the IRs. This raises concerns about postgraduate student's perceptions and attitudes towards IRs whose potential is not fully exploited. If this situation continues, the IRs will not meet the objectives for which they were established and therefore the resources invested in them will go to waste. This study therefore, evaluates the perceptions and attitudes on use of institutional repository systems at the university by postgraduate students with the aim of suggesting interventions to make the IR to be fully utilized.

1.4 Purpose of the study

The purpose of this study was to assess the perception and attitudes of postgraduate students towards institutional repositories at St Paul's University in Limuru, Kenya to gauge the usefulness of and or weakness and propose interventions where possible.

1.5 Objectives of the Study

The objectives of the study were:-

   i.   To assess use of IRs by postgraduate students.

  ii.   To establish users perception and attitude on use of the IR.

 iii.   To evaluate the relevance of the IRs content to students information needs

 iv.   To find out the challenges facing postgraduate use of IRs.

1.6 Research Questions

This study was guided by the following questions:-

   i.   To what extend do postgraduate students use IRs?

  ii.   What are the postgraduate users perceptions towards IRs?

 iii.   To what extend is the IRs content relevant to postgraduate users needs?

 iv.   What are the challenges faced by postgraduate users in accessing IRs?

1.7 Significance of the Study

The following is significance related to the study:-

- The findings of this study would enable the library management to make informed decisions about development and use of IRs.

- PGs users could also benefit in the long run from this study since the findings of the study would lead to creation of awareness and upgrade of the system to enable off campus access of the IR.

- The study becomes of great importance to future researchers and scholars as it forms basis for more research. In addition, it would act as an eye opener for new researchers in the field of institutional repository usage by faculty and undergraduate.

1.8 Limitations and Delimitations of the Study

1.8.1 Limitation of the study

The study was limited to the following:-

- The researcher sampled only 160 postgraduate students of St Paul's' University, Main Campus in Limuru. This was due to the difficulty of getting all the postgraduate students from all the public and private universities in Kenya.

- The attitude of postgraduate students was quite hard to establish, therefore the researcher constructed an interview schedule to collect data through which attitude was determined.

1.8.2 Delimitation of the Study

In spite of existence of different kind of repositories the researcher focused only on academic repositories at St Pauls' University main campus Limuru. The study was also limited to postgraduate users' perceptions and attitudes on use of institutional repository systems.

1.9 Assumption of the Study

The researcher made the following assumptions to guide the study:

1. St Paul's university has an institutional repository

2. Postgraduate Students use IR.

3. There are challenges affecting PG students in accessing IR.

4. There are promotional methods in place for the library to create awareness.

1.10 Theoretical and Conceptual Framework

1.10.1 Theoretical Framework

This research was guided by expectation theory of motivation by Victor H. Vroom (2011). This theory states, "what makes an individual to behave or act in a certain way is because they are motivated to select a specific behaviour over other behaviours' due to what they expect the result of that selected behaviour to be" this therefore, means that before someone uses any service, he/she has certain expectations about the quality of that service. PGs are likely to be motivated to use the IR because they expect to find updated and relevant information to their needs. Therefore the theory is relevant to the study because it predetermines the parameters under which students use IRs. Additionally, expectancy is the belief that one's effort will result in attainment of desired results. In this case it is expected that the IR in SPU meets the postgraduate student's information needs. These expectations are what influence the usage of IRs. This study therefore seeks to establish the perceptions and attitude which postgraduate students have towards the IRs.

1.10.2 Conceptual Framework

The ideas of this research can be conceptualized as shown in Figure 1.1 below

Independent variable	Intervening	Dependent variable
• Relevance of information in the IR • Use of IRs	• Update-ness of the system • Internet connectivity and infrastructure. • Promotion & user education.	• User perceptions • User acceptance of system
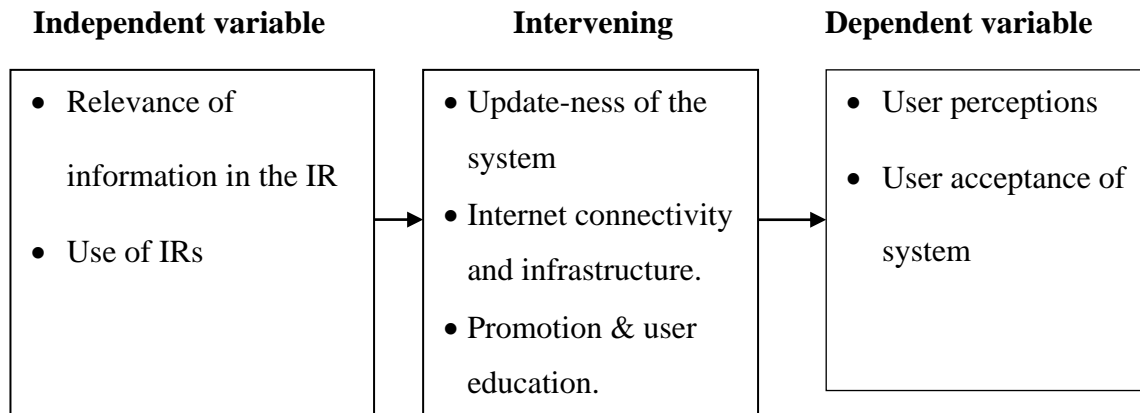
Figure 1.1 User perceptions towards IRs

Relevance of information in the IR is an independent variable because it has an impact on the use of the IRs: the high the relevance of information in the IRs, the more the use of the same. On the contrary the low the relevance of information, the poor the usage of the facility. Users are therefore driven by the fact that use of IRs will meet their information expectations. This is directly correlated to the use or non use of IRs.

On the other hand, updates of the system, internet connectivity promotion and user education are intervening variables that if addressed, are likely to positively impact on the use of IRs. Finally the dependent variables are user perception, attitudes and acceptance of the system all of which depend on availability of relevant information in the IRs.

1.11 Operational Definition of Terms

Access: To retrieve and use information in the institutional repository for research purposes

Attitude: View of content in the repository as one of the sources of information for research work.

Electronic Information Resource: Any information source that the library provides access to in electronic format

Higher Education: Research based organization and institutions that generate and disseminate scholarly content

Information Literacy Program: The training program undertaken by librarians to their users to enhance them acquire information literacy skills

Information Literacy: Information Literacy constitutes the abilities to recognize when information is needed and to locate, evaluate, effectively use, and communicate information in its various formats

Information: A collection of recorded facts, data or knowledge, and electronic data

Institutional repository librarian: personnel in charge of database application that supports check out/check in, version and configuration management, notification, context management, and workflow control

Literacy: The ability to read and write locate, access and utilize electronic information resources

Post graduate: A student who continues to study for an advanced degree after earning a bachelor's degree or other first degree: a Graduate Student

Repositories: A repository is a shared open access database of research work and internal generated research from within a specific organization in this case Academic institution.

Systems: An organized structured information repository for academic use and research work.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter reviews the past literature on perception and attitude of postgraduate students towards IRs. The literature was reviewed according to the objectives of the study which are: the frequency and use of IRs, assessment of use of IRs by postgraduate students, establishing users' perception on access of the content in the IRs, evaluate the relevance of the IRs and the challenges that face users while accessing the IRs.

2.2 Institutional Repositories in Higher Education

Institutional repository is a digital archive created by students, faculty and research students that consists of organized collections of digital content that are accessible to users from within and outside an institution of higher learning with few barriers to its access. Data archived includes all the observation and other experimental data that are captured to support all the scholarly activities at the institution. This is a factor that contributes to academic changes in the higher education institutions. Proper development and management leads to achievement of goals and addressing a range of challenges facing quality of learning and teaching offered in learning centres, accreditation of institutional and programmes offered (Lynch, 2003).

The IRs provides a means of preserving intellectual output, dissemination method and the long-term preservation of resources. This therefore facilitates achievement of the role of higher education since the IRs facilitates the advancement of knowledge in the academic

community through research and teaching. According to Cullen and Chawner (2010), institutional repositories have been established both in the developing and in the developed countries under the support from academic libraries. Hence, end users are encouraged on availing their academic material and also published works to the IRs making them readily available as well as preserved for a long duration. IRs has become a global phenomenon whereby the largest repositories are found in India, Europe, Japan, North and South America and in Australia (www.doar.com). Establishment and promotion of IRs have shown continued growth attributed to the increasing online presence of the academic staff hence the intellectual life and scholarships are continually being shared and documented in digital form.

The purpose that IRs is set up in institutions of higher learning varies with the projected benefits. For instance, benefits to an institution, individual discipline and also to the researchers. Benefits of IR have been identified at a national level, for instance, Japan encourages its establishment so as to avail and share knowledge throughout Japan and also internationally (Cullen and Nagata, 2008). However, in Africa, repositories are viewed as a way of making the research outputs accessible to an academic community that has less access to resources (Musoke, 2008).

The ROAR which is hosted at the University of Southampton, UK and funded through the Joint Information Systems Committee (JISC) contains more than 1000 repositories that are registered worldwide. A total of 536 out of the registered IRs are based in research institutions which hold a total of 2,309,512 records of academic material. These

peer reviewed material represents a small portion of the growing part of the total academic output (Norris *et al.,* 2008). This can be illustrated in the figure1 below.

Repositories Registered Over Time
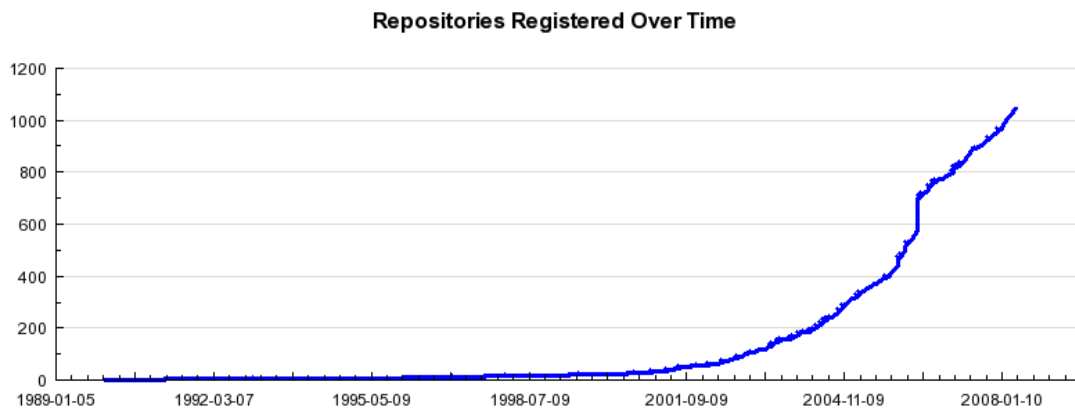
Figure 2.1 Repositories growth rate (ROAR, 2008).

In Africa, development of IRs is very low compared to other continents. Therefore, since African IRs have a regional imperative, implying that to get an African research article in the international scene is difficult, and therefore development of IRs in the African context should really be emphasized. Currently, there are eighteen African repositories of which thirteen are maintained in South African institutions while others are distributed in Kenya, Zimbabwe, Egypt, Namibia, and in Uganda. Based on this information, university of Pretoria is the only university that is well developed with more than 2000 item records. This slow growth in IR initiative and its implementation could be attributed to the inadequacy of resources (Jain 2009).

2.3 Use of Institutional Repositories

There exist different types of IRs which also serve different purposes in which the host institutions established them for. Examples of IRs include: - Subject-based repository,

Research repository, National repository system and Institutional repository. The establishment of a repository by an organization depends on the users, host institution and its purpose. For example, according to Bailey Jr, (2005) a university-based institutional repository is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. It is most essentially an organizational commitment to the stewardship of these digital materials, including long-term preservation where appropriate, as well as organization and access or distribution. IRs in the universities enhances availability of information resources.

According to Armbruster and Romary (2009) the most successful IRs are those that are established with the end user in mind. Accessibility of the information host in the IRs can only be by the users if the system is created in a way that is friendly to users. This therefore, means that repositories are likely to be most useful to scholars when they offer dedicated services supporting the production of new knowledge. Upon establishment the host organization needs to create policy, access rights and security of information hosted. This helps in defining who is allowed to access which information and to what extent the available information can be downloaded.

The main rationale for establishment of an IR is to eliminate the traditional boundaries that hinder access to scholarly information. This enhances visibility and citation of publication and also fosters organizations research growth (Nabe, 2010). In Kenya, this is evident at University of Nairobi since IR has enabled intellectual output from its staff and

students accessible both at the national and international levels. This made the university to be ranked as best performing in Kenya and in Africa (Webometrics Ranking, 2014). Webometrics is commonly used to measure the use of repositories, since it shows the number of articles downloaded and also the hits made from the repository.

2.4 User Perception on access to Institutional Repositories

Majority of works published by academic institutional repositories are research papers and thesis, but according to Ezema (2010), most of this works in Africa are neither indexed nor abstracted in international agencies. Similarly, research outputs in form of theses and dissertations are completed and buried in individual university libraries to the extent that it is only very few researchers in the university community that are aware of the existence of the materials.

Lynch (2003) regards institutional repositories as essential infrastructure for modern scholarship. He argues that the development of institutional repositories emerged as a new strategy that allows universities to apply serious, systematic leverage to accelerate changes taking place in scholarship and scholarly communication. According to Osborne and Cox (2015),the current generation prefers internet sites such as Google and Amazon over academic repositories since they consider the Google interface to be more friendly and quick to access. Most users prefer to use their phones to access the search engines and one requires no elaborate techniques to search through. Peer to peer education and word of mouth about resources and answers obtained for Google has led to its worldwide popularity (Lewis, 2008).

If IRs are to remain relevant, information literacy training has to be intensified by librarians. Development of repositories which allow multiple searches among different databases is necessary, for example search for relevant materials in both the IR and the OPAC. To make this possible the interface has to be changed, putting into consideration users needs and new developments. The change has to put in place research conducted to establish why the internet sources such as Google are more popular than library catalogues and IRs. These reasons will spearhead the change in attitude of the users in regard to access of the IRs content.

According to a research conducted at TUOS (2008) users prefer "simple and advance searching features integrated with content." Simple search which use keyword search is most preferable by most users because it is what is used when using Google and other internet sources such as Wikipedia and Amazon. Keyword search also include tagging which allows users to attach keywords to item records that may enhance personal retrieval and improve the browsing experience for other users, particularly when they are seeking items on specific topics according to popularity or currency.

However, other users prefer to use advanced search because it has more precise queries. This does not only give them precise search queries but also faceted browsing which provides the user with an overview of their search results via a list of categories or facets, from which they can select sub-facets to refine their results. These facets are derived from the item's metadata record and generally encompass categories such as author, subject and format. According to Osborne and Cox(2015), faceted browsing is a popular

feature that users find quick to learn and easy to use because it provides the user with an overview of their search results via a list of categories or facets, from which they can select sub-facets to refine their results. These facets are derived from the item's metadata record and generally encompass categories such as author, subject and format (Emanuel, 2011; Fagan, 2010; Ho 2009)

Academic libraries have stated that being able to provide integrated content helps to promote access to the IR content. Users have difficulty understanding the context of the IR search, as well as integrating wider functions such as OPAC search and other library e-resource searches.Largely due to advances in ICT and the Internet, more and more print journals are also published in the electronic form. A survey of publishers revealed that about 90 per cent of all scholarly journals were available online, with some differences between disciplines; 96.1 per cent of scientific, technical and medical titles are online and 86.5 per cent of arts, humanities and social sciences are accessible electronically (Research Information Network, 2010). This development resulted in a new distribution model in that instead of purchasing and acquiring print publications together with copyright statements, libraries buy licenses to access digital copies based on certain terms and conditions, which are often restrictive (Gadd *et al.*, 2003).The electronic delivery method presents a series of challenges that threaten the conventional chain of scholarly communication.

Despite inadequate speed and more recently prohibitive cost, the print journal has served well over the years as a scholarly research communication medium. Libraries that

purchase such print subscriptions get to keep and preserve the collection. With the increased use of e-journals at the expense of print subscription, there is a level of disruption in how academic libraries archive and preserve scholarly output for future use. One solution that has been put to work for the past decade or so is what has come to be known as the IRs. In an academic environment, IRs are designed as a socio-technical system to provide stewardship of a university's scholarly record. Academic libraries are often taking the lead in such initiatives to capture the intellectual output of their faculty and researchers in the repository system as per publishers' copyright policies for self-archiving.

According to SHERPA/RoMEO, a database that stores and tracks publisher's copyright policies, 70 per cent of the 1,273 publishers, publishing about 18,000 journals in total, allow some form of self-archiving (RoMEO Statistics, 2013). However, the extent to which faculty and the research community in general embrace IRs is not clear. According to the Directory of Open Access Repositories registry (Open DOAR, 2013), an authoritative directory of academic open-access repositories, there are about 2,000 repositories worldwide.

Despite the growth of IRs, three-quarters (75 per cent) of these repositories are concentrated in Europe and North America (Jain, 2011). A comprehensive study that addressed information-seeking behaviours of faculty *vis-à-vis* IRs outlined some of the issues for limited participation by faculty such as redundancy, fear of plagiarism, learning curve and confusion with copyright (Davis and Connolly, 2007). Another study that

involved > 1,000 faculty members at the University of California showed that a great majority of respondents were not aware of or were aware of but did not know much about IRs (University of California Office of Scholarly Communication and the California Digital Library Scholarship Program, 2007). In this study, over half of the research participants (*n* = 1,700) contributed to an IRs, although the results may be somewhat skewed, as the large majority of respondents were from the physical sciences (Nicholas *et al.*, 2012). It can be safely argued that IRs bring change to established scholarly communication channels, and change is often met with resistance. Creating allies among faculty, researchers and library staff, making a convincing case to stakeholders for change, effectively leveraging and repurposing existing intellectual and physical resources and mobilizing politically within and outside the institution to support IRs may help institutions successfully manage the implementation process (Cervone, 2011).

In institutions of higher education, faculty members have greater latitude to adopt or reject a change because of a pre-existing state or attitude (Quinn, 2013). While there are different repository types developed over the years, a large number of scholars and researchers deposit in IRs as well as subject-based repositories (e.g. arXiv.org for physical sciences). Willingness to contribute to IRs was found to be much higher among academic communities with well-established subject repositories compared to those without (Andrew, 2003). The use of subject-based repositories was more common among such academic communities (Nicholas *et al.*, 2012).The level of participation and nature of practice in IRs vary across institutions. Some institutions have instituted mandatory policies where they require the faculty to deposit their research output in the IRs, while

participation may be voluntary in others. Institutional mandate to deposit works prior to publication has also been shown to increase the volume of participation by the faculty (Harnad *et al.*, 2004; Slade and Bates, 2011). The number of items in the repositories is still fewer by far than the collective output by the institution. A gap may exist between self-archiving opportunities and the actual participation by faculty who deposit their work in IRs. Covey (2009) and Cullen and Chawner (2011) observed disciplinary differences in faculty practice in which the participation of sciences and engineering disciplines was much higher than others.

2.5 Relevance of Institutional Repositories in Universities

An institutional (university-based) repository is a mechanism for capturing, archiving and managing the collective digital research outputs of the institution. The differences in approaches adopted by universities have created a landscape for institutional repositories that is not completely consistent. For example, Cullen and Chawner (2010) identified quite different motivations between two academic institutions in New Zealand. Auckland University of Technology was initially concerned with the preservation of theses (and this appears to be one of the main content types that have been used to populate repositories rapidly) than the discovery of research. The School of Business at the University of Otago, on the other hand, intended the repository to act as a means of showcasing research at the institution and to connecting with the wider research community (Cullen and Chawner, 2010).

A key role of IRs is to improve the communication of scholarly research. Institutional repositories have come to represent an important part of the way in which scholarly research can be made more visible and accessible for many. As the first institutional repositories have now been in existence for over 10 years, it seems appropriate to assess the relevance they have in enhancing the processes of sharing research. It is usual that any new initiative evolves in its purpose and direction in the early years, as it responds to audience and user dynamics (Lynch, 2003). Therefore, this research sets out to uncover the central purposes of institutional repositories now, how developments are being affected by policies and researcher behavior and also what services and approaches are appropriate in supporting repositories from those partners involved in scholarly communication.

Institutional repositories have been discussed extensively for over 10 years and there are clear general aims. The main drivers for institutional repositories have been from the information management and technology disciplines Cullen and Chawner (2010). This has led, intentionally to many institutional repositories being created viewed and managed as institutional archives, serving a dual role of keeping all the research outputs from the institution online and in one place in perpetuity and as a means of showcasing the collective intellectual output of the university.

Early advocates of institutional repositories also pointed to new models of scholarly communication (Chan, 2004; Lynch, 2003; Rumsey, 2006). Crow (2002) clearly states that the development of institutional repositories has the potential to disrupt the current

publishing models. Harnad has been one of the earliest advocates of repositories as a means of capturing research in digital formats and replacing current models of research communication (Harnad *et al.*, 2004). This led to the development of the ePrints repository software at Southampton University to manage journal articles, book chapters and conference papers in particular. Pinfield (2002) made a very direct case for repositories to replace traditional publishing models.

The rate in growth in the numbers of repositories has been very impressive. Sherpa and Open DOAR provide many useful definitions and statistics. As of 1stOctober 2013, the Open DOAR registry reported there were 2,453 repositories globally. This compares to 128 at the beginning of 2006 and 1,608 at the beginning of 2012. The majority of these (82 per cent) are either departmental or institutional repositories, 11 per cent are cross-institutional subject repositories, 4 per cent represent archives that aggregate data from several subsidiary repositories and, to date, only 2.6 per cent are governmental. The rate at which this might change will be explored within the paper.

There are clear differences across institutions as to the types of research items that are being archived, too (Burns *et al.*, 2013). Some have argued that it is more appropriate for content in an institutional repository to be more diverse than that in a subject repository, as it represents a much more complete archive of all the research outputs of the organization (Robins, 2002; Genoni *et al.*, 2004). The types of content range from published articles and books chapters, data sets, conference papers and grey literature and ephemera.

2.6 User Perception on Usability of the Institutional Repositories

According to Mapulanga (2012), the major problems that affect acceptance and use of IRs are the issues of access rights. Erickson (2008) investigated ways to apply basic techniques to the problem of identifying and harvesting related materials from other, heterogeneous sources such as external blogs, wikis, and web sources, and combining them with methods for managing the publication and sharing of research artefacts within the individual's scholarly network.

The understanding of the term "institutional repository" by the user community is quite diverse. Many confuse whether library databases such as Emerald and JSTOR, web pages and open courseware sites are part of Institutional repositories. According to Jean (2011) in an investigation done in India, users were found to have very low levels of awareness about IRs and other library databases. This has also limited acceptability of use of the open source software for open access purposes of IRs. This observation therefore, requires user literacy on the use of the open source repositories for both access of information and publishing their final research output.

According to Dornerand Revell, (2012) a steady increase in the usage of the repository for archiving and sharing digital resources, and an item-tagging scheme that suggests user preference of the resource as a platform for enhancing professional rather than personal interests. Is an indicate that there is positive attitude towards IRs. User interactivity by way of textual scholarly discussions on the repository platform is however almost non-existent (Asunka *et al.,* 2011). Erickson *et al.* (2008) have investigated ways to apply

basic techniques to the problem of identifying and harvesting related materials from other, heterogeneous sources such as external blogs, wikis, and web sources, and combining them with methods for managing the publication and sharing of research artefacts within the individual's scholarly network. Manjunatha and Thandavamoorthy (2011) elaborates that artefacts within the individual's scholarly network, they identified that the humanities and social science researchers are found to have a low level awareness of the institutional repository but are interested in contributing their research work to the university institutional repository and have a positive attitude towards providing free access to scholarly research results of their university.

2.7 Challenges facing Use of Institutional Repositories

In many African countries, the digitization of materials and utilization of institutional repositories has faced serious challenges ranging from low internet connectivity; software and hardware challenges; lack of highly skilled personnel (both users and librarians); inadequate power supply; low bandwidth; copyright laws; poor funding; inadequate of organizational infrastructure and policies Mapulanga, (2013).

In Africa, several research outputs are available in form of grey literature where there are a lot of unpublished information. Very little of this information finds its way into international journal, since research papers in mainstream journals are always over-subscribed to and also there is prejudice towards submissions from scientist in developing countries. Local journals have poor visibility and distribution hence research output are not indexed in international journals.

2.7.1 Costs

Establishment of a repository is costly; this is related to the type of services offered, the type of technology used in the IR, and the number of staff. Type of software and hardware used, for instance the use of open source software system is desirable since it can be customized to suit the local needs of the users. Commercial software limits customization and number of technical staff who run the system. McKay (2008) elaborates that other cost that limits use of IR includes cost of digital storage, digitization of research content, and backup system.

2.7.2 Low Content Recruitment

Success of an IRs depends on the student and faculty contribution, however, not all academics are willing to deposit their intellectual output in a repository. Difficulties are experienced at the beginning since academics might be unwilling to deposit their scholarly articles (Jain, 2010). The low deposit rates experience is often due to lack of institutional policies that mandates staff and students to deposit their research work. Studies show that there is a low deposit rate from faculty members in universities and colleges in the United States (Schonfeld and Houseright, 2010). Carlson (2010) elaborates that IRs have not been able to attract the amount of deposits that were anticipated, neither have they been adopted as a standard practice in scholarly communication. Moreover, the low rate of usage of services offered have also contributed to the low rate that materials are deposited in repositories.

2.7.3 Intellectual Property Rights

This is an aspect of the law which deals with legal rights pertaining to creative work. Intellectual property law covers all rights in trade name and secrets, copyright, trademark and patents. Authors of research article, books and other material have a right to convert their work in paper to electronic format (Vaidhyanathan, 2003).This right is always a matter of concern since submission of work to an IR entails scanning of published work in paper format into a digital form which amounts to copyright infringement if not done with permission of the copyright holder (Milimo, 2012).There is inadequate knowledge among researchers on their intellectual property rights hence most are careful not to infringe the rights of publishers. Publishers tend to be negative towards IRs since most view it as potential obstacles and threats towards their businesses. This antagonism makes authors undecided on availing their pre-published work on an online platform before it's published by a traditional publisher.

2.7.4 Sustainable Commitment and Support

Successful IRs requires continuous commitment and support from academic staff and management. Lagzian (2015) argues that support and commitment from the management of an IRs ensures that there is maintenance and preservation of the software and hardware infrastructure, institutional mandate and the digital rights of the research materials. Therefore, commitment of finance and human resource ensures that there is establishment and maintenance of an IR. Challenges are encountered due to high start-up expenses and the need for skilled technical and advocacy from the human resource. Tireless

commitment is needed to market and improve services offered and also answering the questions and feedback that users frequently ask.

2.8 Chapter Summary and Research Gap

Literature has been reviewed according to the themes derived from the study objectives which include: Assessing frequency and use of IRs by postgraduate students, establishing users' perception on access of the content in the IR, evaluating the relevance of the IRs and establishing the challenges facing use of IRs. From the literature reviewed there is a clear gap that user perception and attitudes hinders use of IRs as has been discussed in the literature therefore, this research sought to fill this gap.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter explains the research methodology that was used in carrying out this study. The chapter highlights the study design and locale, study population, sample size and sampling procedure. The instruments and methods of data collection are also highlighted. In addition, the methods used in data analysis as related to the research questions are explained.

3.2 Research Design and Location of the Study

3.2.1 Research Design

This study used descriptive research design to determine the perception and attitude of postgraduate students at the SPU main campus. This research design was considered suitable for this study since a case study has the capability of dealing with diversity of evidence and particularly for explaining why or how events occur. It allowed the researcher to discover valuable insights into the key aspects of the contextual issues or conditions under consideration.

Data was collected using questionnaires and surveys or pre-existing numerical data that can be manipulated using various computational techniques. The main objective of using a quantitative research design is to provide a fundamental connection between an observation with a numeric expression of the quantitative relationship of a variable (Mugenda and Mugenda, 2012). Success of a quantitative study relies on a well-designed

questionnaire. This was achieved by formulation of open and close-ended questions that meets the research objectives.

3.2.2 Location of the Study

The study was conducted at the St Paul's University, Limuru campus located in Kiambu County. The study location was selected since it is the information hub of the university and no research has been conducted at SPU.

3.3 Target Population

Population is an entire group of individuals, events or objects having common observable characteristics (Mugenda 2003). The target population for this study was 160 postgraduate students at St Pauls University main campus. The number of PhD and masters students was 56 and 102 respectively. The university librarian and the librarian in charge of the IRs also formed part of the population.

3.4 Sampling Techniques and Sample Size Determination

3.4.1 Sampling Techniques

Purposive sampling was used in this study to select and interview the Chief University Librarian being one who has most authoritative information regarding use of IR and the Head Librarian in charge of the IRs. Students in the postgraduate section were selected from all the departments using stratified random sampling method, based on PhD and masters programmes thereby attaining a representative population sample.

3.4.2 Sample Size Determination

In quantitative research, an appropriate sample size needs to be calculated so as to make inference about the target population. Generally, the larger the sample sizes the more accurate the estimation. However, in this study a sample population of 80 postgraduate students was selected which represented of the whole postgraduate students at SPU with salient characteristics. Selection of the sample size was based on Glenn (2013) sample size determination table which provides a simplified formula to calculate sample sizes for small population between 50- 200. This formula was used to calculate the sample sizes in Tables 1 below where sample size for ± 5%, ± 7% and ± 10% precision levels where confidence level is 95% and P=.5.

Table 3.1 Sample size Determination

Category of Users	Total Population	Sample Size
Masters	102	51
PhD	56	27
University Librarian	1	1
Librarian in charge of IR	1	1
Total	**160**	**80**

3.5 Research Instruments

The data was collected using the following instruments;

- Questionnaires
- Interview schedule
- Observation checklist

3.5.1 Questionnaire

Kothari (1990), points out that a questionnaire is considered as the heart of a study operation. Questionnaires with open and closed questions were used to collect data from the postgraduate IRs users. The questions were as per the study objectives. The questionnaire enabled the researcher to collect large amounts of quantitative and qualitative data within a short period of time.

3.5.2 Interview Schedule

Mugenda and Mugenda (2003), defines interview as an oral administration of a questionnaire. The researcher used interview schedule to collect data from the head librarians because the data helped meet specific research needs of the study. The interview elicited some details and clarifications that had not been possible with the questionnaires.

3.5.3 Observation Checklist

According to Mugenda & Mugenda (2003) a researcher utilizes an observation checklist to record what he or she observes during data collection. Using observation checklist the researcher observed and recorded the way the institutional repository was being used by spending two days at the computer laboratories where the system is accessed from. The researcher noted that there was frequent patronizing of the IR. Interestingly, most of the users used the repositories for checking news, reading mails and responding to them. She also observed from the IR user statistics that most users were masters students. Besides, it

was observed that most users still used hard copies of dissertations even when in the IR environment.

3.6 Pilot Study

The researcher undertook a pilot study in order to test the reliability of the research instruments before the actual research was conducted. The pilot study was conducted at USIU-A with a sample size of 65 of the registered postgraduate students. This is because USIU-A IRs was established long before SPU and has a relatively larger number of users compared to SPU IR. These helped to ensure that the data collected was reliable. The questionnaires were then analyzed to establish their suitability. This was aimed at establishing whether the questions asked were relevant to the study and whether the answers received were clear. Corrections were made to the questions that were found inappropriate before they were administered to the actual target population of the study.

3.7 Validity and Reliability

3.7.1 Validity

Validity is the accuracy and meaningfulness of inferences which are based on the results (Kothari, 1990). To ensure validity of this research, the research instrument was subjected to a pilot study prior to the final research, considering average completion rate of 80%, the questionnaire was adjusted appropriately. Any item found to yield irrelevant information was removed such as questions on gender, age, and working experience. A more outstanding questionnaire with few relevant questions was drafted for the final research. To ensure validity, the researcher also employed stratified sampling method

where the entire population was divided into different year of study to ensure all the years of study were represented in the research and proportionate number of respondents assigned to each group.

3.7.2 Reliability

Mugenda and Mugenda (1999) define reliability as the measure of the degree to which a research instrument yields consistent results after repeated trial. Thus during piloting, the questionnaires were distributed to different respondents and same results were obtained therefore, the instrument was considered reliable.

3.8 Data Collection Techniques

The research employed the following methodologies which were used to collect data:

- Questionnaire administration

- Interviews

- Observation

- Documentary review and content analysis

3.8.1 Administration Questionnaire

The researcher administered the questionnaires personally after being issued with a research permit from NACOSTI, which authorises research activities to take place. Qualitative data was collected using open-ended questions while quantitative data was gathered by use of close-ended questions. The researcher set the date to administer the

questionnaires to the Postgraduate users, who completed them at their convenience. Thereafter, the researcher collected the questionnaires personally for their processing.

3.8.2 Interviews

According to Bordens (1996), an interview is a method of administering a questionnaire that involves face-to-face interaction with the subject. According to Gay (2009), the interview method of data collection has the following advantages: useful when participants cannot be directly observed, participants can provide historical information and allows researchers control over the line of questioning. Unstructured and semi-structured questions were prepared (interview schedule) and used to elicit views and opinions from the participants. These were the University librarian and the librarian in charge of the IRs. The interview schedule was prepared in line with the study objectives and the research questions. The information sought helped meet the study objectives. The interview was recorded and later used as a validity check, the researcher used both face to face and telephone interviews for clarification on issues that were not clear during transcription or as a way to confirm given information.

3.8.3 Observations

According to Kombo (2006), observation is a tool that provides information about actual behavior. Direct observation allows the researcher to put behavior in context and thereby understand it better. According to Gay (2009), advantages of observation include: researcher has first-hand information, he/she can record information as observed, unusual aspects can be noticed during observation, and useful for exploring topics that may be

uncomfortable for participants to discuss. The researcher prepared an observation checklist of items to be observed and used it in postgraduate computer rooms. The researcher carried out the observations after the interview sessions with the systems librarian at SPU.

Observation was carried out for two consecutive days at the computer lab on use of the IR. The researcher checked on usage of the system using a check list to collect data on the user behaviour and resources used. It was observed that most postgraduate students walked in to the computer lab still with some hardcopy thesis.

3.9 Data Analysis

Data was entered into excel spread sheets and thereafter subjected to an SPSS version 16.0 statistical package where descriptive statistics were generated. This included the arithmetic means and the standard error of means (SEM), median, percentage of response based on gender, and other frequency distributions. The data was manually checked to ensure completeness and uniformity. Analysed data was presented in tables and graphs each addressing the objectives and the research questions.

3.10 Logistical and Ethical Considerations

Mugenda and Mugenda (2003), defines ethics as a branch of philosophy which deals with one's conducts and serves as a guide to one's behaviour during data collection, Logistics is also defined as all those processes, activities or actions that a researcher must address or carry out to ensure successful completion of a research study.

Permission was sought from the St Paul's university, Limuru campus, An introductory letter was issued from the department of Library and Information Sciences of Kenyatta University. Participation was on a voluntary basis and no students were coerced into participating in the study. Confidentiality of the students was guaranteed through exclusion of questions that capture personal information about the participant. All sources used were acknowledged and all data collected used only within the period and for purposes of the study.

CHAPTER FOUR

PRESENTATION OF FINDINGS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter gives the presentation of findings, interpretation and discussions of the study whose aim was to establish the perceptions and attitudes of postgraduate students towards use of institutional repository at St Paul's University Limuru campus. The analysis was guided by the following objectives:

i.   To assess use of IRs by postgraduate students.

ii.   To establish users perception and attitude on use of the IR

iii. To evaluate the perception of users on relevance of IRs

iv.   To find out the challenges facing postgraduate use of IRs.

4.2 General and Demographic Information

This section details the response rate as well as the demographic information of the respondents. Information on education level of the respondents was indicated. This was considered important because the researcher wanted to establish the number of postgraduate students who were aware about the existence of Institutional Repository at SPU. This was necessary as it helped the researcher to determine the respondents" knowledge with regard to access and utilization of IRs based on their level of study.

4.2.1 Demographic Information

The researcher found it important to establish the education levels of the respondents. The respondents were asked to indicate their education levels, so as to be able to understand IRs user distribution. The results were summarized in Figure 4.1
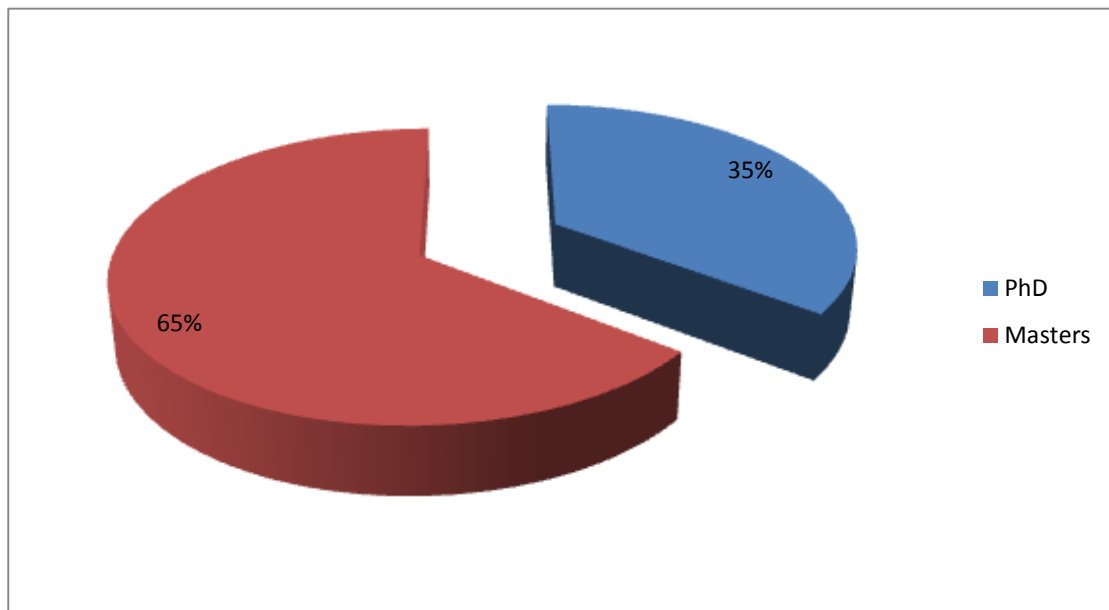

Figure 4.1 Education Levels of Respondents

The findings in Figure 4.1 indicate that the respondents were at different levels of study, where nearly two thirds of the populations (62%) were masters' students, and over a quarter was PhD students (35%). The findings therefore show that the majority of the respondents for this study were master's students. The assumption that the postgraduate students were fully aware for the existence of IR s was met in this objective. This justifies Eisenberg, Lowe and Spitzer (2004) who believed that all students should have the opportunity to access information in print, non-print and electronic sources. From the interview with the librarian it was gathered that SPU has more Masters Students (102) as

compared to PhD's student (58) currently. This is attributed to the fact that there are currently more master's programs on offer than PhD's programs.

4.3 Response Rate

A total of 80 questionnaires were distributed and 60 were returned having been fully filled. This translates to 75% of the study population. This population was considered adequate based on Glen (2013), who observed that a 50% percent response rate is adequate, 60% percent good and above, while 70% percent rated very well therefore this was considered a good representation of the population. Two library staff members were interviewed and information gathered incorporated to the data collected with questionnaires data was, analyzed and discussed.
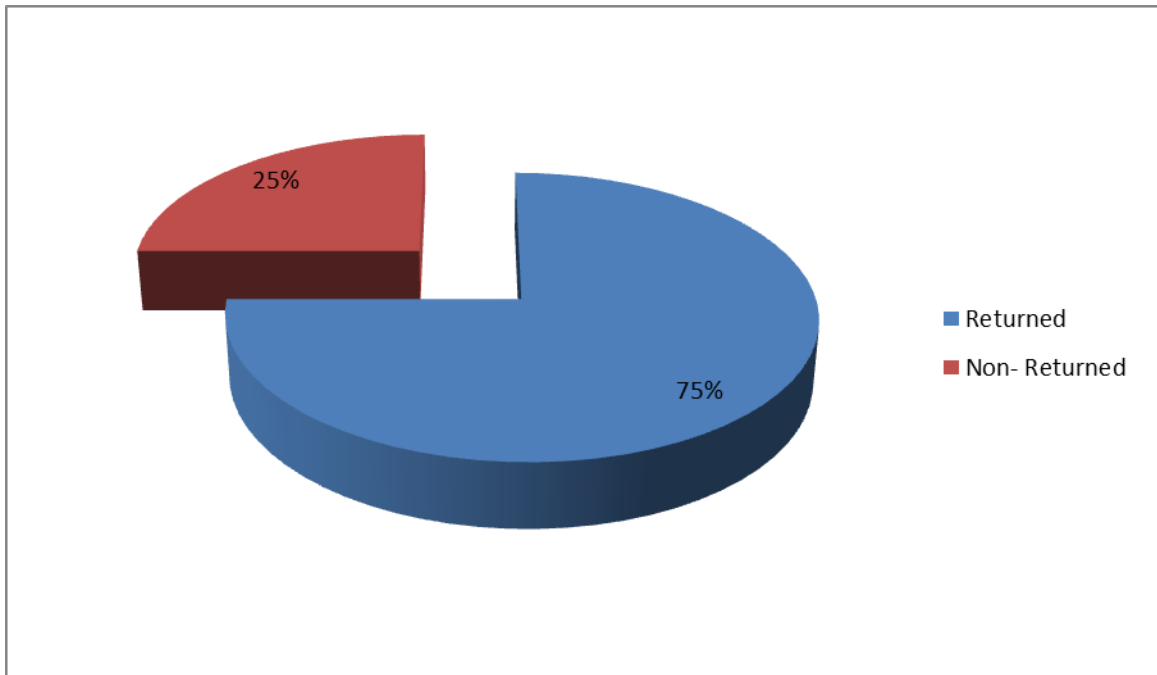

Fig. 4.2 Response Rate

4.3.1 Means of Knowing About Existence of Institutional Repositories

It was found important to describe the awareness level of the respondents about the existence of the IRs. This is because awareness directly impacts on the use or non use of the IRs. The 60 respondents that were aware of the existence of the IR had various means in which they got to know about it; 12% of them got to know about the existence of the IR through publicity at the university website, 54% during presentation by an IR librarian in an information literacy session and 34% got to know about the existence of IR through the library website upfront before the IL session. This shows that the information literacy sessions play a big part in creating awareness about IR. This was confirmed by the two university librarian who quipped, "Information literacy programs mounted by the library during library orientation sessions have contributed to increased awareness of IRs by the students unfortunately this does not reflect the expected usage patterns…. only a small fraction make use of the IR, a concern that we have to address". It is therefore clear that though students are aware about the IRs they do not take advantage of the wealth of information they transmit. Through observation, the researcher noted that there was low level usage of IR by the postgraduate students, a discovery that vindicates the data elicited by questionnaires and confirmed by the university Librarian.

4.3.2 Year of Study

Another key characteristic of the respondents was their year of study. This study sought to find out the year of study of respondents. The Figure below shows the distribution of the respondent's years of study.
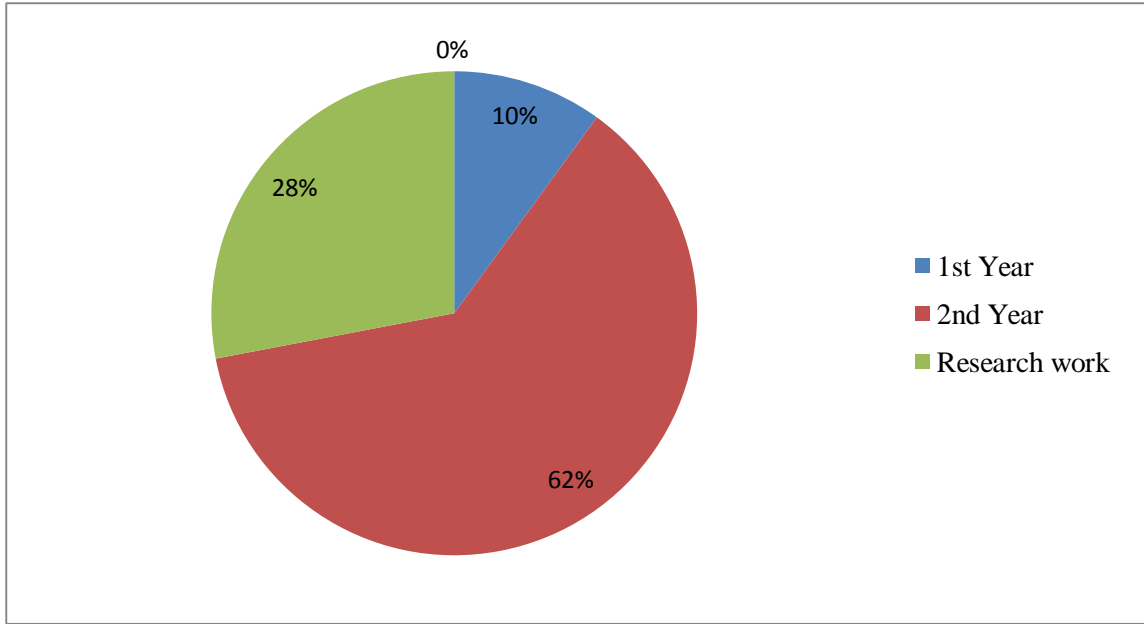
Fig. 4.3 Year of Study for Postgraduate Students

The study revealed that the majority (62%) of the respondents are second year postgraduate students, this constituted more than half of the population for the study. A further 28% were final year students while only 10% were first year students. This shows high disparity in PG students enrollment because the number seemed to be declining every year, consequently the low use of institutional repository is directly proportional to the declining patterns of the PGs in the university.

4.4 Use of IRs by Postgraduate Students.

The study sought to find out how often the postgraduate students access the IRs for information. This helped the researcher in determining the relevance of the information hosted in the IRs. According to Vroom, (2011) a user will repeatedly go refer back to a system if information obtained in the previous search met their information need. Consequently the document or information resource referred to regularly and frequently

is deemed to be relevant to the needs of the users. The table 4.4 indicates that both masters and PhD students use the IR with Master's students accessing the IR at 12% per week compared to the PhDs students who on weekly bases accessed the IR at 64%. This is a clear indicator that the PhD students find the IR content more relevant to them as compared to the master's students. On the other hand the data collected indicted that the master's students access the IR at least once a month at the highest rate which was at 57%, where as the Phds student's only access at 18%. Going by the patterns of response the Masters students are more receptive and therefore positive about use of IRs. On the other hand the PhD students despite undertaking intregratual and research demanding level of study made the least use of the IRs. By extension this shows their apathy and therefore low and negative attitude towards IRs. Mr. Mwangi added that, *"The university web ranking has continuously improved due to the establishment of the IRs in 2012."*
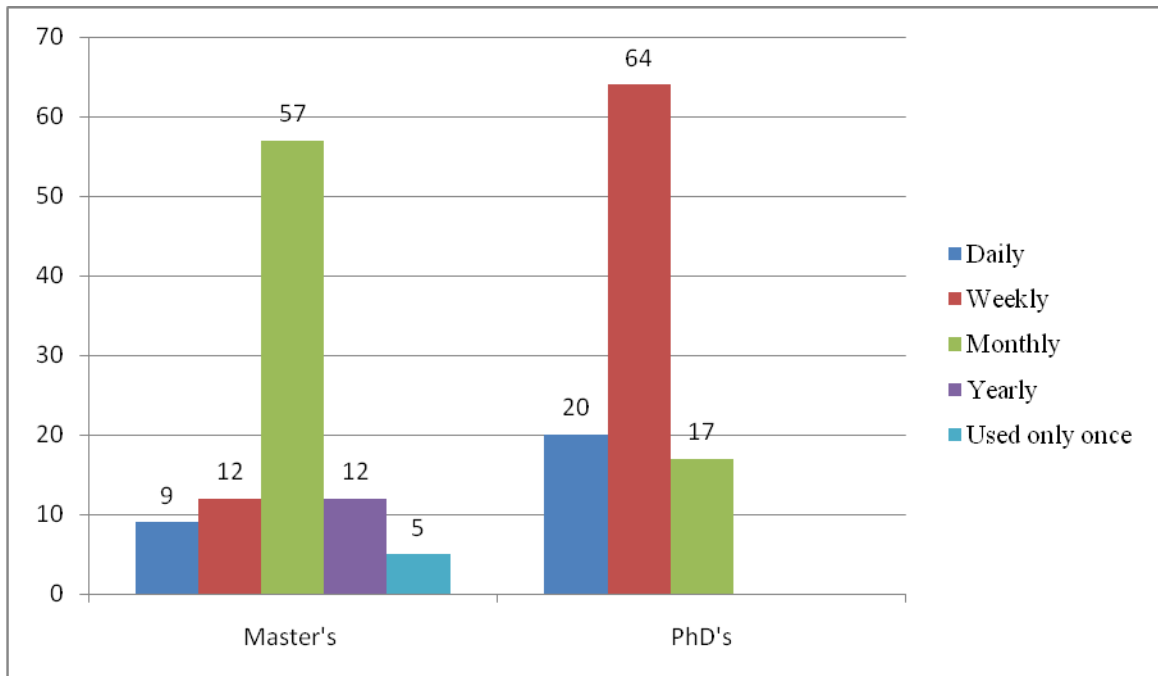
Fig 4.4: Use of IRs by Postgraduate Students

4.5 Relevance of the Its Content

The study sought to investigate whether the content in the IR is relevant to the postgraduate students. The figure below shows that 64% of the PhD students found the content very relevant and 22% of Masters Students agreed that they had content relevant to their study. Only 7% of the master's students and 4% of the PhD students did not find the content relevant. From the above the highest component of IRs users is PhD students (64%) and masters students (36%) were in agreement that the content was relevant. Asked about the relevance of IR to the student's information needs, the librarian confirmed "our repository consists of up to date and relevant information resources to the needs of our postgraduate users. Therefore collections in the IRs at SPU are relevant to their users needs.
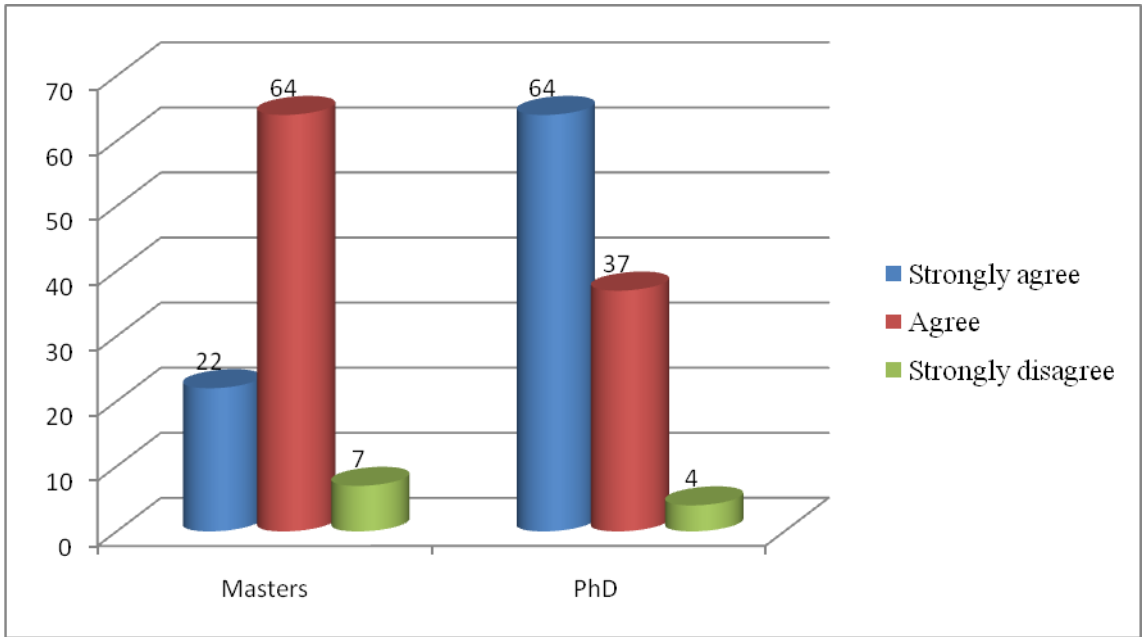
Figure 4.5: Relevance of the IRS Content

4.6 Reasons for Using IRs

The study sought to investigate reasons for using the IR by the postgraduate students. It was majorly observed that both masters and PhD students use the IR for information retrieval purposes. Up to 70% of the postgraduate students sampled used the IR for retrieving material. One of the key respondents stated that students used institutional repositories basically for research purposes. This is in conformity with the reason advanced by postgraduate students i.e information retrieval as a major use of IRs. The researcher confirmed through observing how students used IRs i.e. they used them for research and proposal writing, term papers among other uses.
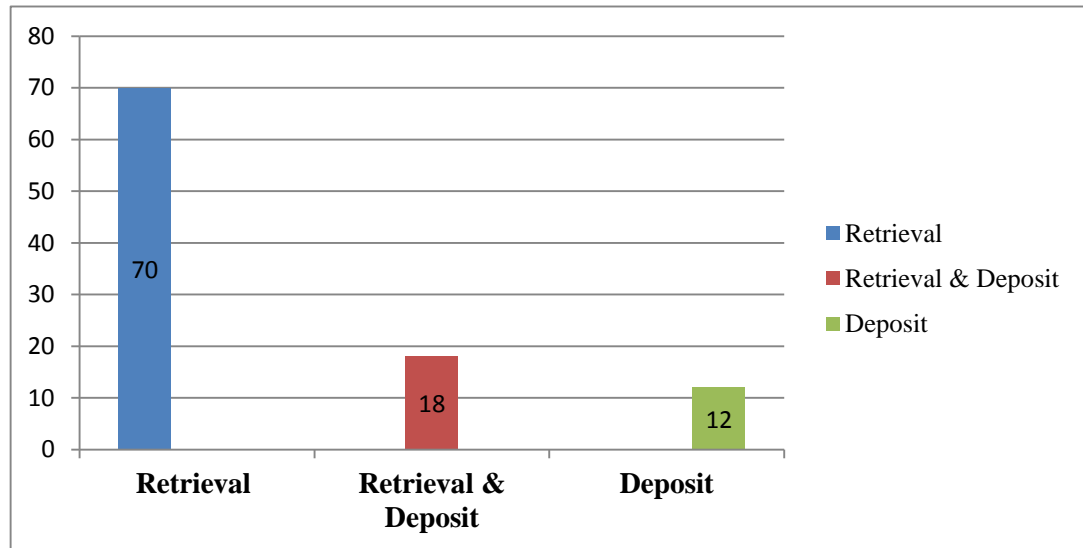
Figure 4.6: Reasons for Using IRs

4.7 Perceptions of IR by Users

The graph below represents the opinion of the postgraduate students at St Paul's university with regard to access of the IR; 60% of the postgraduate students strongly disagreed that access to the IR is easy. This implied that they found it difficult to access the content in the IR. 10% of the postgraduate students sampled agreed that it was time consuming to access the content in the IR; a further 15% strongly agreed that it was easy to navigate through the IR. 20% of the sampled postgraduate population disagreed that it was easy for them to navigate through the IR.

The study therefore realized the need to train on navigation skills so as to help in making the experience of access easy and this will in future lead to positive perception towards use of institutional repositories. Further to this, from the interview conducted with the main respondents, such as the librarian, it was found out that the postgraduate students

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generally preferred use of print resources. "Most of the postgraduate students were seen to have been used to manual resources. Besides age factor may be having an impact in their perception and thus, their lukewarm attitude towards IRs. The researcher was able to observer this trait in their use behavior in the computer lab and noted that they preferred to use traditional resources as opposed to the IRs. Therefore users' perceptions and attitudes to IR was of mixed nature. The majority had low perception towards IRs because of the complexity of use. Only a small fraction positively embraced use of IR. From this some users perceived IR as being complex to use and therefore negative attitude while others (about a quarter) had high regard and therefore positive attitude towards IRs.
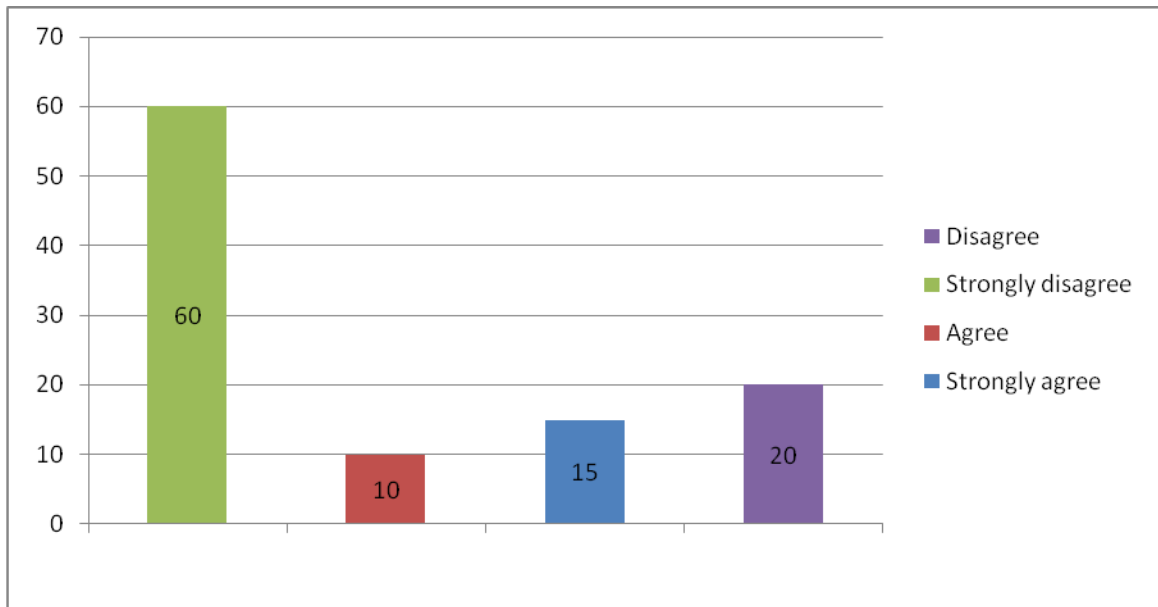

Figure 4.7 Ease of access

Y axis- student's opinion

X axis- Percentages

4.8 Challenges Faced in Use of IRs

The figure below shows that the greatest challenge that hampered effective use of IR was unreliable internet access in the university as indicated by more than half of the population (62%); On the other hand less than a quarter of the population (14%) indicated that the challenge they face is lack of access of the IR away from the local area network of the university. The researcher realized that the IR was not accessible on Ezpoxy that is off campus access. This population felt that the limited access hindered their access and utilization of the IR. Similarly less than a quarter of the population (12%) indicated that there are inadequate technology skills therefore there are challenges accessing IRS. It was also established that (10%) of the population was ignorant about the existence of IR while only (1%) felt that there were no challenges encountered.

From the forgoing unreliable internet connectivity is the major challenge as indicated by more than half of the population in the above findings and the main reason why the students were not able to access information in the IR and utilize the resources. This greatly contributed to their apathy in the use of IRs. The findings are in sync with Durisin (2002) who found out that there are many challenges affecting information access and information literacy. When asked about possible challenges facing IRs both the university librarian and the incharge of the IRs agreed on the fact that there were challenges on use of IRs. Among them were:

- PGs reliance on conventional sources of information such as the hardcopy thesis instead of accessing the same information in the IRs

- PGs were not very willing to embrace technology which led to low usage of IRs. This was typically associated with age of the students especially the elderly ones.

- Lack of willingness by the PG student to submit a softcopy of their work for uploading delayed the process of uploading the documents.

- Scanned copies of the projects and thesis took up a larger space in the IRs unlike the softcopy CD written projects and thesis.

- Unstable internet connectivity hindered students from accessing the IRs.

Therefore the study established that SPU IRs is bedeviled with myriad challenges that have negatively affected use of the IRs by PGs at St Paul's University. This is as illustrated in the figure below:
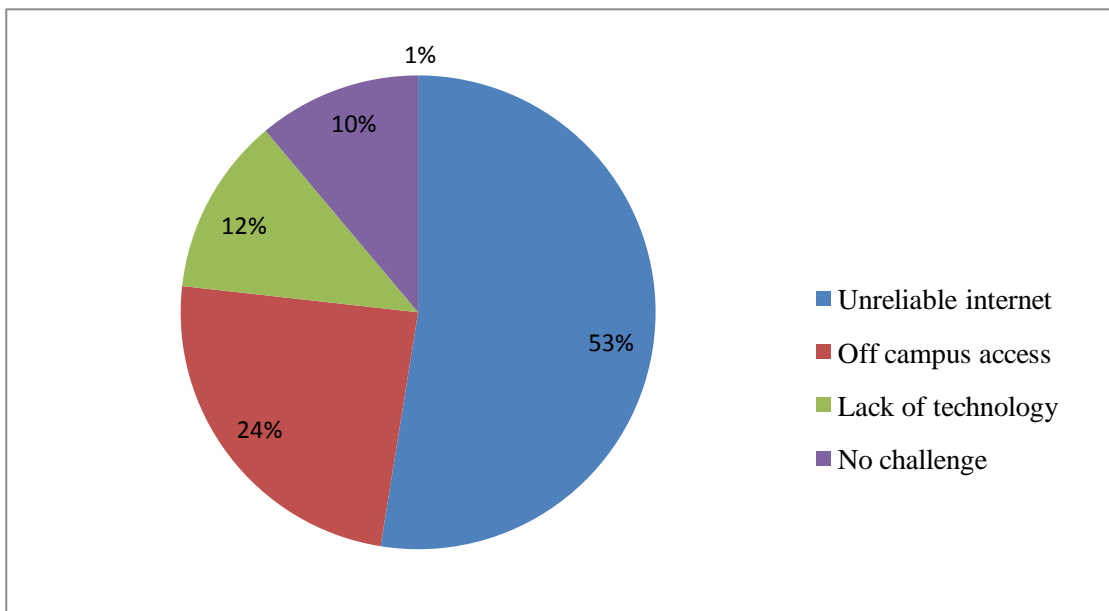

Fig 4.8 Challenges Faced in Use of IRs

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter entails the summary of the study, conclusion and recommendations based on the objectives. The study sought to access the perceptions and attitudes of postgraduate students at St Paul's University Main Campus in Limuru. In addition, this chapter provides a direction for further studies.

5.2 Summary of the Findings

The study was done among the post-graduate students and librarians at St Paul's University main campus in Limuru, where the majority of the PGs were masters students while the minorities were PhD students. The following were the findings:

1 The IR system was introduced in SPU to enhance dissemination of research output of the university scholarly output by postgraduate students and staff of the university.

2 The study established that the IR is inadequately utilized by the postgraduate students, who suggested that the settings of IRs should be enhanced and allow off campus access.

3 The study established that though the content of the current IRs was relevant, there is still low perception and poor attitude towards the IRs among Postgraduate students.

4 The study established that the training time was inadequate therefore the students needed to have more training sessions as they continued with their studies.

5 The study found out that the IL training played an important role to the students in enhancing use of IRs for research and therefore inevitably necessary for effective

positive perception and attitude of postgraduate students towards use of IRs and other resources available in e-resource format.

6   The study also established that poor internet connection was a major concern to students who lamented that they used a lot of time trying to download and save the relevant content searched for from the IRs. This negated their attitude towards IRs.

7   It was established that off campuses did not have institutional repositories making it cumbersome for their postgraduate students to access e-based resources.

8   It was also established that 42% of the IRs users were inadequately skilled for self-archiving skills and navigation of IRs.

9   More masters students access the IRs as compared to the PhDs students. Therefore masters' students are more positive about IRs compared to their counterparts. Whereas the PGs population comprised highest percentage of masters students compared to the PhDs, Masters Students recorded poor and low usage of IRs from the Phd Students.

5.3 Conclusion

The study concludes that:-

- The content available in the IRs is sufficient but inaccessible due to inadequate internet connectivity. Therefore IRs are not positively embraced by the PGs.

- Though information literacy programs had facilitated the change in perception of the postgraduate students on use of the IRs, they should be scaled up to enhance use of IRs.

- Inadequate internet connection and access mode of the IRs in off-campus platform is the major challenge as reflected by the highest percentage of respondents. This is a key area that needs to be fixed as a matter of urgency to improve use of IRs by Postgraduate students.

5.4 Recommendations

After drawing the aforementioned inferences, the researcher deemed it rational to put across a number of pertinent recommendations.

5.4.1 Policy Recommendations

i. The study recommends that the University invests in upgrading internet connectivity so as to help reduce the time taken trying to download the information content from the IRs. This will cultivate a positive attitude towards IRs.

ii. It is also recommended that the library and ICT collaborate in making the SPU IRs visible in off-campus mode so that the postgraduate students and university researcher are able to access the content away from the university.

iii. Lecturers must also include the archived resources in the IR as part of the reference, for students course work. This will in turn enhance accessibility and usability of the e-information resources and as a consequence increase university visibility in the Web-ranking. It is also likely to translate into a positive perception of IRs by PGs.

iv. Students should be encouraged to use the IRs for their information needs through enhanced IL programs.

v. There is need to have IL improved in order to promote continuous training and retraining throughout the postgraduate course; this will create a change of focus from only use of hard copy conventional method of access of scholarly content to use of digital platform which is available in the IRs.

5.5 Recommendations for Further Research

The study was done to find out the perceptions and attitudes of postgraduate students towards use of institutional repository at SPU. The researcher recommends further research in the following areas:

1 Establishment of departmental institutional repositories vis a vis self-archiving of research.

2 Perception of undergraduate student towards use and content available in the IRs.

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APPENDIX A:

INTRODUCTION LETTER

<div align="right">

P.O Box 12910

Nakuru

0722236863

</div>

Dear Respondent,

My name is Wangai Mercy Wangui. I am a postgraduate student at Kenyatta University in the school of education, department of Library and information sciences. I am conducting a research which is aimed at assessing the perception and attitude of postgraduate students on Institutional repository at St. Paul's University in Limuru Kenya. I kindly request you for your participation in responding to the research questions needed to meet the objectives of the study. I wish to assure you that all the information given here will be treated with utmost confidentiality and will only be used for research purposes.

Thank you in advance.

Wangai Mercy Wangui

Department of Library and information Sciences

Students, Kenyatta University

POSTGRADUATE USER QUESTIONNAIRE

The questions below will help gather information relating to perception and attitude of postgraduate students towards use of Institutional repositories at St Paul's University Main Campus Limuru.

Please answer each question as accurately as possible.

All information will be strictly confidential and will only be used for the purposes of this study.

INSTRUCTIONS

Please indicate your response by ticking the provided boxes. For questions that require suggestions or comments, please use the provided space

Personal information

1. Gender……………………………………………………………..

2. Level of education………………………………………………….

3. Year of study………………………………………………….....

Use and access of institutional repository

4. Are you aware of the existence of institutional repository

   in your university?

   Yes ☐   No ☐

5. If yes, how did you get the awareness?

☐ Through publicity at the university library website

☐ Contact from the IR staff

☐ Presentation by IR representative in an information literacy class

☐ Publicity through the library website

6. How often do you use the institutional repository(ies)?

☐ Everyday

☐ Weekly

☐ Monthly

☐ Yearly

☐ Used it once

7. What are your reasons of using the IR

☐ To deposit academic material

☐ To retrieve academic material

☐ Both deposit and retrieve academic material

8. Indicate your level of agreement with this statement: material on the IR is usually relevant to my needs

☐ Strongly agree

☐ Strongly disagree

☐ Agree

☐ Disagree

9. Which information is currently missing in the IR, that you would like available for your use…………………

Usability of IR

10. The institutional repository is easy to use

☐ Strongly agree

☐ Strongly disagree

☐ Agree

☐ Disagree

11. Navigational assistance is available and is helpful

☐ Strongly agree

☐ Strongly disagree

☐ Agree

☐ Disagree

Extend of Use

12. How have the librarians at SPU supported accessibility to IR content?

Facilities and Services	Excellent	Good	Fair	Poor
Adequate computer in the OPAC section				
Availability of personnel for digitization and submission				
Educational training of postgraduate students and staff				
Adequate promotion and marketing of IRs				
Licensing and copyright issues of IR content				

13. How did you gain information and skills on how to use the institutional repository?

☐   Guidance by other library staff

☐   Formal training in the library

☐   Seminars organized by the library

☐   Informally

☐   Self-instruction

Challenges facing use of institutional repository

15.) Kindly list the challenges faced when using the institutional repository

a) …………………………………………………………………………………

b) …………………………………………………………………………………

c) …………………………………………………………………………………

16.) Provide the possible solutions that will address the listed challenges above

a) …………………………………………………………………………………

…………………………………………………………………………………

b) …………………………………………………………………………………

THANK YOU

APPENDIX C:

LIBRARIANS INTERVIEW

INTERVIEW SCHEDULE FOR HEAD OF DEPARTMENT

Use and access of IR

1. What initiatives have you developed to encourage deposit and access of academic material in the SPU institutional repository?
2. What plans have you put in place to ensure that there is continuity of deposit and access of the information in the IRs?
3. What are the special services offered to users with special needs to ensure that there are not disadvantaged in access?

Usability of IRs

1. What are the initiatives that your department has put in place to ensure that contents in the institutional repository are easily accessible to the postgraduate students
2. What measures has the library and university put in place to ensure that the content in the IRs is accessible while off campus?

Extend of Use

3. How do you rate the extent to which the materials are being accessed by the users?
4. Do you have any measures in place to ensure that other users and researchers do not plagiarize the content in the IRs?

Challenges Facing Use of IRs

5. As the head of the department, what are the major issues that affect the students willingness to deposit their material in the institution repository?

6. What are some of the issues concerning copyright and patents that postgraduate encounter when depositing in the IRs?

APPENDIX G

TURNITIN REPORT

Turnitin Originality Report

turn**it**in

PERCEPTION AND ATTITUDE OF POSTGRADUATE STUDENTS ON INSTITUTIONAL REPOSITORIES: CASE OF ST. PAUL'S UNIVERSITY IN LIMURU, KENYA. By Wangai Mercy Wangui

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20

< 1% match (Internet from 28-Jun-2010)

21

< 1% match (student papers from 13-Mar-2015)

22

< 1% match (student papers from 30-May-2017)

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APPENDIX H

NACOSTI LETTER

APPENDIX I

NACOSTI PERMIT

APPENDIX J

GRADUATE SCHOOL INTRODUCTION LETTER