DETERMINANTS OF KNOWLEDGE SHARING THROUGH INSTITUTIONAL REPOSITORIES AMONG ACADEMIC STAFF IN SELECTED PUBLIC AND PRIVATE UNIVERSITIES IN KENYA

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ABSTRACT

In recent times, organizations have experienced changes that have been characterized by the shift from relying on information to the utilization of knowledge. This led to the birth of the Knowledge Management (KM). With organizations investing in embedding KM in their operations, a component of KM being implemented is knowledge sharing. In this study, Knowledge Sharing (KS) is the process by which knowledge generated and stored in an organization is communicated from the source to the recipient. Universities have not been left behind in implementing KS by facilitating their academic staff in this endeavour. They have invested in ICT platforms where respective academic staff share knowledge generated and gained through research. The ICT platforms residing in institutions are referred to as Institutional Repositories (IRs). An evaluation of a number of university institutional repositories, show that academic staff in some faculties have contributed more research and knowledge outputs, while others have little or no contributions. This study led to establishing what determines academic staff's decision to share their research and knowledge outputs via institutional repositories in selected universities in Kenya. The research objectives that guided the study included: establishing ICT skills of academic staff, the provision of a university ICT policy on knowledge sharing through institutional repositories, the perception of academic staff members in knowledge sharing and the reward systems for knowledge sharing through IRs. This study adopted the Knowledge-Sharing model developed by Cheng et.al. in 2009 as its theoretical model. Descriptive research design was adopted for the study. The study location for the research was the University of Embu, a public university, and St Paul's University, a private university. The target population in the selected universities was 151 academic staff. A questionnaire was used as the data collection tool. Qualitative data was analysed based on the themes of the study. Descriptive statistics were used to analyse quantitative data and were presented through frequencies, percentages, tables, and graphs. The study major findings included; the academic staff members have a positive perception on knowledge sharing through IRs, self-archiving of knowledge and research outputs through IRs is yet to be embraced, academic staff are not aware if KS through IRs is included in their respective university ICT policy and the academic staff are not satisfied with rewards system in place for awarding knowledge sharing through IRs and suggested monetary and non-monetary rewards as measures to improve on the reward systems. The study recommended that academic staff to be facilitated on self-archiving of their knowledge and research outputs via Irs. Also, universities to include and discuss KS through institutional repositories in their respective ICT policies, conduct user education to academic staff on KS through institutional repositories issues that are discussed in their ICT policies and to evaluate and improve on the rewards system that the respective universities have established.

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ABBREVIATIONS

AERC	African Economic Research Consortium
AI	Artificial Intelligence
BEL	Blended Electronic Learning
CBM	Calculative Based Mechanism
DOAR	Directory of Open Access Repositories
EAST	Embu Agricultural Staff Training
EUC	Embu University College
FAQs	Frequently Asked Questions
Gok	Government of Kenya
HEIs	Higher Education Institutions
ICIPE	International Centre for Insect Physiology and Ecology
ICT	Information and Communication Technology
ILRI	International Livestock and Research Institute
IRs	Institutional Repositories
IT	Information Technology
KALRO	Kenya Agriculture and Livestock Research Organization
KHRC	Kenya Human Rights Commission
KIM	Kenya Institute of Management
KIPPRA	Kenya Institute of Public Policy Research and Analysis
KM	Knowledge Management
KMPs	Knowledge Management Practices
KMS	Knowledge Management System
KNLS	Kenya National Library Services
KSB	Knowledge Sharing Behavior
KS	Knowledge Sharing
KU	Kenyatta University
LIS	Library and Information Science
NACOSTI	National Commission for Science, Technology and Innovation
PLS	Partial Least Square
RBM	Relational Based Mechanism

RC	Research Collaboration
R&D	Research and Development
SLR	Systematic Literature Review
SPSS	Statistical Package for Social Scientists
SPU	St. Paul’s University
UAE	United Arab Emirates
UoEmbu	University of Embu
UoN	University of Nairobi
ZOU	Zimbabwe Open University

DEFINITION OF TERMS

Academic Staff: Personnel employed by universities to provide teaching, research, and consultancy to the university fraternity.

Collaborative Research: An approach where two or more people work or involve each other in producing research.

Dissemination: Distribution of research findings to an audience.

Innovation: An improved or new method of sharing research findings.

Institutional Repository: A system that captures preserves and disseminates knowledge and research outputs that have been generated in an organization.

Knowledge: Information that has been applied meaningfully in the performance of teaching, learning and research activities combined with understanding and capability

Knowledge Management: A process that entails acquisition, organization, storage, sharing, dissemination, and utilization of knowledge resources in an organization for the long-term sustainability, performance, and competitive edge.

Knowledge Sharing: A process in which knowledge generated and held in an organization is communicated from the source to the recipient.

CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

This chapter, contains information that forms background to this study, the statement of the problem, research questions and objectives that guided this study. This chapter also presents, the significance of the study, the study limitations and delimitations and assumptions to the study. Finally, it presents the theoretical framework and conceptual framework on which the study was based on.

1.2 Background to the Study

Organizations have experienced changes in the recent times and this has been characterized by the shift from relying on information to the utilization of knowledge which led to the birth of the knowledge management (KM) concept (Nonaka, 1994). The benefits of managing knowledge are but not limited to an organization's long-term sustainability, performance and competitive edge.

With organizations investing in embedding KM in their operations, this evolution led to the emergence of knowledge-based management systems. Therefore, an effective KM is a key driving force for organizations. The components of the KM process include knowledge generation, organization, storage, sharing, dissemination and evaluation. This study focused on knowledge sharing (KS) which is a key component for effective KM. KS is practiced across all specializations such as businesses, organizations in public and private sectors, which also includes institutions of higher learning. Sharing

knowledge and information about one's professional background and achievements that could improve an organization's effectiveness and efficiency is known as knowledge sharing, or KS (Yi, 2009). This stresses the importance of practicing information sharing, which can only be accomplished with the help of effective knowledge sharing.

In south-east Asia, a study that was conducted in Malaysia aimed at understanding factors of non-academic staff leading to knowledge sharing behavior in different higher education institutions as cited by (Rahman, Osmangani, Daud, & AbdelFattah, 2016). The study findings established that subjective norms and attitude have positive relationship on behavior towards knowledge sharing. Ajzen (1991), defined subjective norms under the theory of planned behavior, entail beliefs and practices exhibited by the personal social circle that an individual works or lives in. Therefore, an individual will be compelled to behave in the ways of the community. Moreover, in this study it established the perception of academic staff which entailed awareness, interaction and willingness had a positive relationship in sharing knowledge through IRs in their universities.

In Africa, Abbas (2017) conducted a study in Nigeria on the intentions of KS behavior of academics. The researcher concluded that the academic staff exhibited sharing of knowledge and other resources with their colleagues through membership in professional associations, discussion of ideas, provision of solutions in science and voluntary disposition (Abbas, 2017). The knowledge sharing behavior was formed by an individual’s set of behaviors that involves sharing of expertise and experiences related to work with colleagues. Therefore, an individual’s views and exhibition of knowledge sharing behaviors characterizes their perception on KS.

For successful knowledge management and especially knowledge sharing practices in an organization, good ICT infrastructure is a key factor. A well-defined ICT infrastructure is made up of availability of hardware, software and network facilities and internet connectivity. The existence of an ICT infrastructure decentralizes the power to take initiative and empowers collaborative work processes. The installation of ICT infrastructure and provision of ICT support is an enabler for knowledge sharing applications (Omona, Weide, & Lubega, 2010).

Knowledge sharing applications utilizes platforms that facilitate communication of knowledge generated and held in an organization. Communication channels that may be used to communicate knowledge include face-to-face, meetings, seminars and groupware technology. Therefore, the communication channel to be used for encoding and decoding the message (knowledge) should be properly selected with the recipient in mind. In Singapore, KS in schools happens on an informal basis through one-on-one communication setups and collaborative workgroups (Chang, Sung, & Lee, 2003).

The ICT platforms established are often known as institutional repositories. The goal of a digital or institutional repository is to capture, preserve and disseminate knowledge and research output from staff in academia and research (Maiga, 2017). The intellectual capital takes the form of scholarly publications and instructional materials (Eden & Doctor, 2008). The Open Directory of Open Access Repositories (Open DOAR, 2024) is a directory that provides information on repositories and these repositories provide open access to academic and research outputs. The Open DOAR was launched in 2005 as a collaborative effort between universities that is Lund University and University of Nottingham (OpenDOAR, 2024). Information provided by Open DOAR shows Kenya to have 49 repositories as at 2024 and they are distributed in the following institutions and organizations as summarized in Table 1.1.

Table 1.1 Institutional repositories in Kenya

Institutional Repository	Category/Name	Number of Repositories
Universities	Public Universities	25
	Private Universities	15
Research Institutions	AERC, ICIPE, KALRO, ILRI, KIPRA	5
Non-governmental Organizations	Kenya Human Rights Commission (KHRC)	1
Government Corporations	Lake Victoria Basin Corporation	1
Tertiary Institutions	Kenya Institute of Management (KIM)	1
Non-profit Organizations	Rift Valley Institute	1
Total		**49**

Source: (Open DOAR 2024)

Table 1.1 above, illustrates the institutional repositories found in different organizations in Kenya. The IRs found in private and public universities in the country, contribute to 40 of the total 49 IRs which is 81%. Therefore, this is interpreted that the universities have allocated and invested resources for establishing IRs and this indicates that they value the utilization of IRs in capturing, sharing and dissemination of research and knowledge outputs generated in the universities.

With institutional repositories being established in organizations, the target users ought to have adequate ICT skills in access and use of the IRs. In Iran, a study examined the relationship between ICT skills of knowledge workers. The knowledge workers were experts and managers who interacted with the employees' knowledge repositories at the organization, knowledge sharing and high performance of employees. The ICT skills

were looked at as a mediating role between knowledge sharing and employees' high performance (Ahmadi, Abzari, Isfahani, & Safari, 2018). A study in Nigeria investigated the frequency of use of platforms facilitated by ICT for KS by librarians in academic institutions. The study sought to examine possible barriers and ways that can promote efficient use of these platforms. The findings indicated that the use of ICT based platforms were increasingly being utilized by the academic librarians, however, they were faced by limited ICT skills (Ngozi, Akpan, & Adedokun, 2014).

While the academic and research community can access information or digital resources freely and openly through support-driven digital infrastructure provided by various higher education institutions, and the adoption and acceptance of practices for sharing knowledge is not clear enough for evaluating the initiatives as demonstrated by (Njiraine, 2019). In Kenya, studies conducted on knowledge management practices determined that knowledge sharing is a key component for the implementation of KM (Gichuhi, 2014). Application of appropriate ICT tools enables the effectiveness of knowledge management (Nguyo, 2016).

With the provision of communication technology to enable sharing of knowledge in an organization, people who possess the ICT skills, knowledge and training are able to be successive in knowledge sharing as pointed out by (Nguyo, 2016). The different studies have looked at the different ways ICT can facilitate knowledge sharing. Similarly, a study investigating the strategies and how integration of information technology in KS amongst academics in HEIs in Kenya was conducted (Kimile & Bulitia, 2020). The study determined that academics in the universities studied shared knowledge through various ways and forums. Therefore, this study established the adequacy of ICT skills among academic staff when sharing knowledge through IRs is an enabler.

Higher Education Institutions (HEIs) and more so the universities, are institutions that generate, manage, share and utilize knowledge (Cheng, Ho, & Lau, 2009). For universities to gain a competitive edge in the higher education industry, long term sustainability and performance in sharing of knowledge should be a top priority. This can only be made a success by providing the right KM environment by the top management. The efficacy of KS is influenced by the need to motivate the knowledge contributors that are the academic staff, with good leadership, organizational structure and culture and reward mechanisms. While this should be the case, reward mechanisms implemented for motivating staff in academic institutions to share knowledge need to be investigated.

In Asia, Malaysian Business Schools, academic staff strongly agree on the benefits of KS in an academic environment for the purpose of remaining highly effective (Jain, Sandhu, & Sidhu, 2007). This should be achieved by universities through the provision of teaching, learning and research and development services to all their stakeholders. More so, for higher education institutions to attain the status as the University of Choice, their research and development services are assessed so as to attract students, academics and funding. Universities have not been left behind in implementing KM. With the implementation of KM, KS has an impact on research and development (R&D). Therefore, it is important that HEIs and more so universities should take KM with high regards. This therefore means that KS can only happen when the right KM environment takes place (Tan, 2016). However, various studies have shown different relationships both positive and negative and their impact on rewards and knowledge contribution.

In China, Liu and Li (2017), investigated the effects of various forms of monetary rewards on knowledge contribution behavior among Chinese students. The researchers

mentioned that where an individual contributes or shares knowledge, the knowledge benefits the organization greatly besides the cost incurred by the individual (Liu & Li, 2017). Lin and Lo (2015) conducted a study in collaboration with a healthcare organization in Taiwan. The goal of the study was to come up with a model in theory which brings together mechanisms that can expound on sharing of knowledge. The mechanisms are two and they included CBM, that is the Calculative-Based Mechanism which posits as the traditional monetary rewards and the RBM, Relational-Based Mechanism which founded on the social networks of an individual.

Chikono (2018), conducted a study on sharing of knowledge among members of academic staff (AS) of Zimbabwe Open University (ZOU). Majority of the AS members agreed that the university lacked a reward and recognition system that encourages KS. However, a significant number of the academic staff had a neutral response on the availability of a reward systems and recognition system. This therefore, raises the question on availability of reward systems for KS in universities, perception and awareness of the rewards systems among academic staff. In Kenya, some of the reward systems applied may include but not limited to training opportunities, recognition in public fora, promotions, monetary incentives, throwing parties, workshop and conference sponsorships among others (Gichuhi, 2014).

With universities being able to motivate academic staff, it is prudent for organizational policies on KS and more so the ICT policy to be formulated and implemented. Effective policies and practices at the organizations have a positive influence on leveraging human capital in online networks which results in organizational and professional competitiveness (Vătămănescu, Dumitriu, Andrei, & Leovaridis, 2015). This study looked at academic members in European developing countries who are part of

academic social networks. The organizational framework may include policies, processes, systems and strategic plans that should be put in place to support KM. Policies, standards of procedures and guidelines allow the use of organizational resources effectively and provides an assessment measure of its compatibility with organizational objectives.

In Asia, Anatan (2022) conducted a study with the aim to explore strategies and policies for higher education that enable knowledge sharing efforts in Java, Indonesia. The study found that, policies and strategies on KS are related to attending workshops or seminars, funding received in support for research conducted and formation of forums around scientific discussion that enable KS activities (Anatan, 2022). Similarly, a study by Fan and Beh (2023), highlighted practices of KS among academic staff members of HEIs in Malaysia. The study utilized the systematic literature review (SLR) method to thoroughly examine the variables that influence KS among professors at HEIs. From their findings, technological factors had not been studied adequately compared to factors are organizational and individually oriented (Fan & Beh, 2023).

In Africa, the absence of a policy on knowledge management and knowledge sharing has a negative impact. Universities end up not being able to competitively position themselves in the knowledge economy of Zimbabwe (Chikono, 2018). A study conducted on knowledge sharing of academic staff memebers in selected Tanzanian universities indicated the absence of knowledge sharing policy that consequently results in having a negative impact on the universities and their position in the knowledge economies (Maiga, 2017). The development of knowledge sharing guidelines for staff working in universities and other organizations is imperative. It is an enabler that facilitate the promotion of knowledge sharing. From the above studies, the policies highlighted have not discussed an organization’s ICT policy on KS, Therefore, this

study looked at the provision, awareness and the issues addressed by the university ICT policies on KS.

1.2.1 Context of the Study

The University of Embu (UoEmbu) previously known as Embu University College, was established was a constituent college under the University of Nairobi (UoN). Embu Agricultural Staff Training (EAST) College was the predecessor of Embu University College and was started in 1947. The mandate of the college was to develop and implement short courses in management and technical, and offer research and consultancy services to enhance performance in the agricultural sector (Embu, 2024). In October, 2016 the university college transitioned from a constituent college of the UoN to a fully- fledged University. The University of Embu is known for its commitment to research, innovation, and academic excellence in science and technology. It has a reputation of being the best performing public university according to annual performance evaluation report for the financial years 2020-2021 and 2021-2022

St. Paul's University (SPU) traces its origins back to 1875. A missionary society, then known as The Church Missionary Society (CMS), identified a settlement for slaves who had been freed at Frere Town that is present Mombasa. A divinity class was established in 1888, by Rev. E. A. Fitch so as to provide training in Christian leadership. The institution relocated to Limuru in 1930, and by 1955, it became St. Paul's United Theological College. The college reflected its ecumenical nature with participation from the Anglican, Presbyterian, Methodist, and later Reformed churches. In 2007, SPU was granted a university charter by President Mwai Kibaki, officially becoming St. Paul's University (SPU, 2024). St. Paul’s University is known for its interdisciplinary approach and commitment to ethical research and community

engagement. Its main campus is located in Limuru with campuses in Machakos, Nairobi and Nakuru.

1.3 Statement of the Problem

Knowledge sharing entails communication of knowledge generated in an organization. Organizations such as universities have been at the forefront in implementing and promoting knowledge sharing using ICT communication channels and platforms such as institutional repositories. Among the main objectives of an institutional repository, is to enable dissemination of knowledge or research output generated and acquired in the universities by academic staff. With an examination of institutional repositories in most university show that some members of the academic fraternity in the universities have contributed more outputs in research while other academic staff members have made low or no contribution. Therefore, this raised the question of why there was variance in contribution of research output by academic staff and what determines their decision to share through IRs. Without an evaluation to determine what motivates academic staff to practice knowledge sharing through IRs, the goals on which institutional repositories were established for and the invested resources will go to waste. Therefore, the purpose of this study, was to establish the reasons why some academic staff made low research and knowledge output contribution for sharing through IRs.

1.4 Justification

In recent times, organizations have experienced changes that have been characterized by the shift from relying on information to the utilization of knowledge. This evolution has been characterized by generation, sharing and preservation of knowledge simply referred to as the knowledge management (KM) concept. With significant investments

having being made in establishing platforms such as institutional repositories (IRs) in organizations has not left chartered public and private universities behind.

The role of IRs in universities, is to facilitate sharing and dissemination of research and knowledge outputs by academic staff. This serves as a critical tool that enhance the visibility of the university and professional growth of her academic staff. However, with the IRs in place little research has been carried out on reasons why academic staff especially from relatively newly chartered universities, share their knowledge and research outputs in their respective IRs.

1.5 Research Objectives

1.5.1 General Objective

This study purposed to establish why there is variance in knowledge and research outputs shared by academic staff through institutional repositories. This was done by establishing the determinants of knowledge sharing through IRs in selected Kenyan public and private universities.

1.5.2 Specific Objectives

The research objectives that guided the study were as follows:

1. To determine the ICT skills of academic staff in knowledge sharing via institutional repositories.

2. To examine the university ICT policy on knowledge sharing through institutional repositories.

3. To establish academic staff’s perception on sharing knowledge via institutional repositories.

4. To examine reward systems utilized in motivating academic staff who practice knowledge sharing through institutional repositories

1.6 Research Questions

This research was guided by the following questions:

1. What ICT skills do academic staff have in order to share knowledge through IRs?
2. What has the university ICT policy covered on knowledge sharing through IRs by academic staff?
3. What is the perception of academic staff on sharing knowledge through IRs?
4. What rewards systems are utilized in motivating academic staff who practice knowledge sharing through IRs?

1.7 Significance of the Study

This study, provided in-depth information on knowledge sharing and would be of great benefit to the following and in different ways.

i. Academic Staff

The academic staff members contribute to the knowledge and research outputs in IRs through self-archiving. They are then able to access and use the deposited output to generate more research and to collaborate with their colleagues in research endeavors thus increases their visibility as academia and the universities. Therefore, having established the determinants for sharing their knowledge, they can be helped to overcome the challenges and thus increase contribution of research output through IRs.

ii. Kenyan Universities

The top management of academic universities are likely to understand benefits arising from promoting and implementing knowledge sharing among its academic staff through quality research output. The findings of this study, would guide the management of universities to re-formulate their motivating strategies for academic staff so as to increase their research output for IRs which improves their global ranking that is based on web presence.

iii. Government of Kenya

The Government of Kenya (Gok) through its state agencies and departments in the Ministry of Education can access knowledge from research findings shared by academic staff for continuous improvement and sustainability of its national development agenda.

1.8 Theoretical Framework

This research study adopted the model on knowledge sharing that was developed by (Cheng et al., 2009). The knowledge sharing model addresses key components that have been found to influence KS which are categorized into individual, organizational and technological factors as discussed hereunder.

Individual Factors

Individuals in an organization are key contributors and receptors of knowledge (Nonaka & Takeuchi, 1995). The individual factors for this study were, perception of academic staff in sharing knowledge via IRs and ICT skills of academic staff.

Organizational Factors

These factors emanate from the organization's top management support, organizational culture, structure, rewards and incentives and management systems. In this study the organization refers to the universities.

The organizational factors for this study were the reward systems utilized in universities to award academic staff who shared knowledge through IRs.

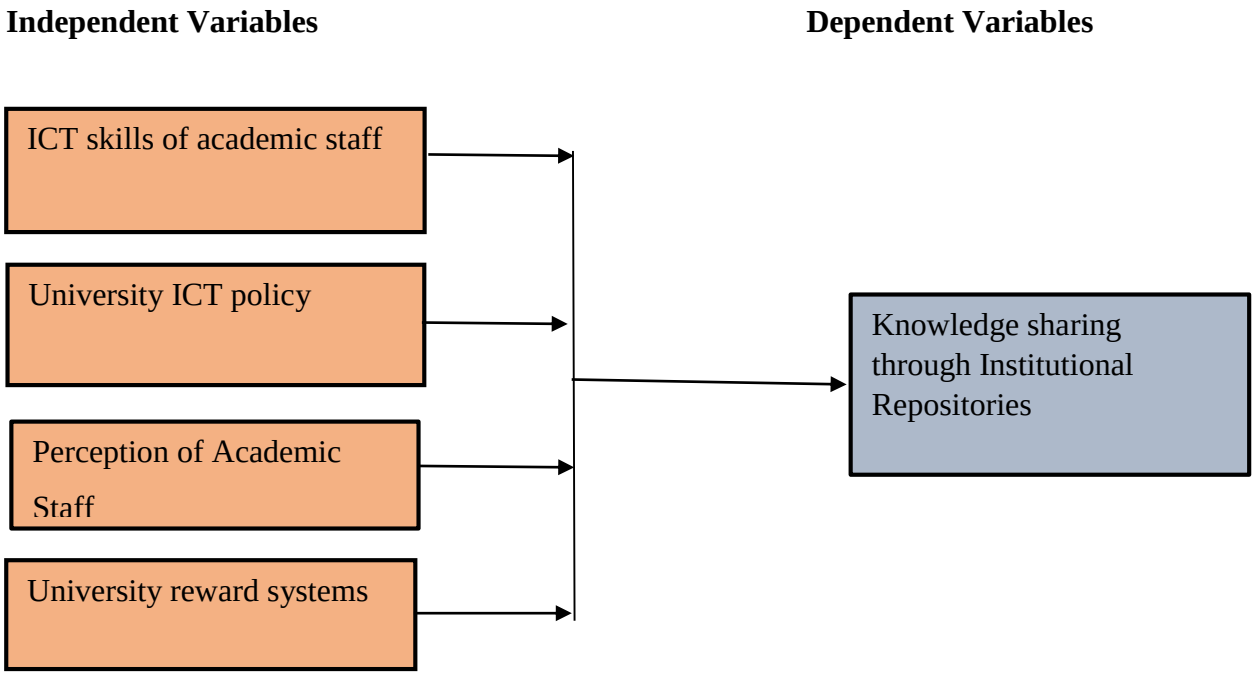
Technological Factors

Technology facilitates and encourages KS. KS technologies enhance collaboration, cooperation and communication among individuals efficiently. Organizations are encouraging their members to share knowledge through various mechanisms using ICT platforms.

In this study the technological factors were knowledge sharing through institutional repositories and university ICT policy on KS among academic staff via IRs.

1.9 Conceptual Framework

This research study looked at the following number of variables that could be the determinants of knowledge sharing towards institutional repositories among academic staff. These variables and the relationship among them are indicated in Figure 1.1.



Source: Researcher 2025

Figure 1.1 The Conceptual Framework

Figure 1.1 illustrates the relationship that knowledge sharing through institutional repositories is determined by variables that relate with the academic staff. This therefore explains that academic staff play important roles in generating and sharing of knowledge and research outputs.

Academic staff generate knowledge and research output with which they disseminate and share through university ICT platforms established that is the institutional repositories. In order for AS members to share their research and knowledge output through IRs the perception of the AS which will result in sharing of knowledge in their research output. In addition, their up-to-date ICT skills can also determine the success of academic staff KS through IRs. Therefore, positive perception would form the knowledge sharing intentions through institutional repositories among academic staff.

Other variables include the university ICT policy in articulating towards KS through IRs and the university reward systems that they utilize in awarding academic staff who share knowledge and research outputs through IRs. A supporting university ICT policy on KS and a motivating reward system will influence positively the knowledge sharing behavior through IRs among academic staff in the respective universities.

1.10 Limitation of the Study

This study focused on academic staff found in the selected universities main campuses and their research contribution towards institutional repositories of their universities.

The selected universities main campuses were used in the study but not their satellite campuses since the target academic staff have a regular attendance schedule in their main campuses.

The study focused on institutional repositories established in academic universities rather than other research publication platforms.

1.11 Delimitations of the Study

The study limited itself to AS and not all the staff found in a university because academic staff are required to conduct research and the research output contributes majorly to the contents of IRs.

Selected universities main campuses were used in the study since the target academic staff have a regular attendance schedule in their main campuses. However, due to teaching and examination activities going on in the universities, the researcher reached out to the academic staffs that were readily available through the school administrators.

Institutional repositories are established with the sole purpose of centralizing dissemination of research output and university publications generated by academic staff.

1.12 Assumptions

The researcher made the following assumptions.

1. The academic staff members were aware of the existence of IRs at the universities.
2. The academic staff shared their knowledge and research output through IRs.
3. Academic staff members were aware of the existence of university knowledge sharing policy.
4. Universities provided individual, organizational and technological support for KS through IRs among academic staff.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter contains literature from past studies reviewed thematically based on the study objectives that included; ICT skills among academic staff on knowledge sharing, university ICT policy articulation on knowledge sharing, perception of academic staff on knowledge sharing and reward systems utilized in awarding academic staff who practice knowledge sharing. At the end of this chapter, there are listed research gaps that were identified in the reviewed literature on which the study addressed.

2.2 Knowledge Sharing through Institutional Repositories

In the recent times, organizations have experienced changes which have been characterized by the shift from relying on information to the utilization of knowledge. This led to the birth of the Knowledge Management (KM) concept. Knowledge management is defined as the process that entails acquisition, storage and organization , sharing, dissemination, and utilization of knowledge resources in an organization. Its benefits are but not limited to an organization’s long-term sustainability, performance and competitive edge (Nonaka, 1994).

Organizations continue to invest in embedding KM in their operations, which has led to the emergence of economies that are knowledge-based and therefore, an effective KM is a major driving force for organizations. Among the components of the KM process is knowledge sharing (KS). KS is practiced across all specializations such as business, institutions in the public and private industry, as well as institutions of higher

learning. Knowledge sharing involves sharing information and knowledge on one's work experience and output that may provide organizational effectiveness and efficiency (Yi, 2009).

Knowledge sharing utilizes platforms that facilitate communication of knowledge generated and held in an organization. For successful knowledge sharing and management practices in an organization, a good ICT platform is a key factor (Omona, Weide, & Lubega, 2010). Knowledge sharing among individuals can be carried out in four major approaches. One of the four major approaches was contribution to organizational databases that are based on ICT platforms (Alavi & Leidner, 2014). The ICT platforms established are often known as institutional repositories. An institutional repository is a system that captures, preserves and disseminates knowledge and research outputs that has been generated in an organization. The availability of IRs aids in managing knowledge found in organizations which results to an organization's long-term sustainability, performance and competitive edge among its peers in the industry.

In the quest for higher education institutions (HEIs) such as universities, in providing effective teaching, learning, research and consultancy services the implementation of IRs in HEIs is very important so as to provide quick, accurate, and adequate information (Omeluzor, 2014). With universities investing resources in establishing IRs, the main purpose of institutional repositories such as in business schools in India was to capture, preserve and disseminate intellectual output from staff in academia and research (Eden & Doctor, 2008). Therefore, the success of these IRs also relies on the partnership of universities with its academic staff who are key contributors of knowledge and research outputs (Dutta & Paul, 2014). IRs bring together intellectual research articles, theses and dissertations, conference papers, university journals and other university documents.

A research study was conducted to explore the impact that Open Access (OA) has had on development of collections in academic libraries with emphasis on the role of open access repositories (Oladokun, Sambo, Bassey, & Enkarire, 2024). The paper was a qualitative research and utilized a systematic literature review. The literature was research across multiple databases in academia, including Google Scholar, Web of Science, Universities' Open repositories, and Scopus. The findings of the study indicated that, there is an increase in use of hybrid open access journals. This enhances access to scholarly materials and liberates knowledge. Integrating OA resources into library collections facilitates accessibility to academic outputs, enables libraries to re-allocate funds from subscriptions that are expensive which supports open access initiatives and improves ICT infrastructure. The study highlighted the benefits of open repositories which include collaboration, innovation, and not limited to equitable information dissemination. Moreover, according to Oladokun et al (2024) issues such as sustainability, copyright compliance, quality control and digital preservation need to be addressed on. The current study reviewed the institutional repositories in the selected universities and established that they were open access repositories.

According to Dinu (2024) examined the researchers' and librarians' habits in promoting their work through academic repositories and social media, highlighting the decline of thematic repositories and the rise of institutional repositories and social media platforms like ResearchGate and Academia.edu (Dinu, 2024).

A research study was conducted to explore how Content as a Service (CaaS) catalyses knowledge sharing across various contexts, particularly between universities and their communities. The study used bibliometric analysis, a quantitative methodology, to examine academic publications related to CaaS and its role in fostering knowledge sharing. A comprehensive search on the Web of Science database identified 1,044

relevant publications. The data were analyzed using Bibliometrix with R programming. The study established that CaaS is a multidisciplinary domain encompassing computer science, information science, business, and healthcare. It democratizes information access and enhances economic benefits through subscription models. Notably, there has been a surge in CaaS-related publications over the past decade, especially in the USA, highlighting the need to investigate CaaS as a knowledge-sharing paradigm. However, a significant gap remains in the literature from Africa, limiting insights into how local contexts can influence knowledge sharing in higher education through CaaS. Implications CaaS can improve information accessibility, collaboration, discoverability, and cost-effectiveness through shared resources. Given Zimbabwe's contextual nuance, this study is among the pioneering research investigating CaaS as a knowledge-sharing paradigm. This bibliometric review examines Content as a Service (CaaS) as a knowledge-sharing paradigm, revealing its multidisciplinary nature, economic benefits, and information accessibility, with a significant gap in African literature and implications for higher education collaboration (Mutindindi, Bwalya, & Khumalo, 2024).

2.3 ICT Skills among Academic Staff in Knowledge Sharing

Application of appropriate ICT tools enables the success of KM and KS. This is through the installation of ICT infrastructure and provision of ICT support that provides reliable knowledge sharing applications (Omona, Weide, & Lubega, 2010). With the provision of technology to enable KS in an organization, people who possess the ICT skills, knowledge and training are able to be effective in knowledge sharing as cited by (Nguyo, 2016). For a successful KS practices in an organization, a good ICT infrastructure is a key factor. A well-defined ICT infrastructure is made up of

availability of hardware, software and network facilities and internet connectivity. The existence of an ICT infrastructure decentralizes the power to take initiative and empowers collaborative work processes.

Ahmadi et. al. (2018) investigated the relationship between ICT skills of knowledge workers, knowledge sharing and the employees' high performance. The research study identified the mediating role of ICT skills between knowledge sharing and high performance among employees. The knowledge workers were personnel at the Electric Distribution Company in Isfahan province, Iran. The study utilized a sample size of 112 employees. The study brought out strongly that the managers' ICT skills had a strong mediating effect on the knowledge workers' high-performance work and knowledge sharing. The knowledge workers included experts and managers who interacted with the employees' knowledge repositories at the organization (Ahmadi, Abzari, Isfahani, & Safari, 2018). This study used ICT skills as a mediating variable among knowledge workers in a non-academic organization. The present study used ICT skills as an independent variable among academic staff in selected universities.

Buragohain and Kumar (2021) conducted a study on the administration and maintenance of institutional repositories of selected universities libraries of Assam in India. The study focused on establishing the current situation of the IRs in the selected libraries, the policies and procedures adopted in the administration of the IRs and the various strategies applied by the university libraries especially in creating awareness about institutional repository The present study looked at the training on IRs among academic staff.

In Pakistan, a study was conducted on the impact of ICT skills among library professional for KS in Higher Education Institutions (HEIs) of Pakistan was conducted

by (Rahoo, 2021). The descriptive survey design study was utilized. Simple sampling technique was used for sampling the sample size of 180. The questionnaire was used as instrument for primary data collection. The study findings concluded that the Library and Information Science (LIS) educators have numerous ICT skills. However, in their efforts for gaining ICT skills they are discouraged due to the high costs of acquiring the training. Moreover, the high purchasing cost of the ICT equipment and the environment where the ICT equipment could be assembled for use was established as an inhibitor, and the knowledge and reception of the users of this knowledge if ICT equipment were to be used for knowledge transmission. The study used library professionals teaching LIS programs in universities in Pakistan as the main respondents while the present study looked at academic staff across teaching all academic programs in public and private universities in Kenya.

Lalitha et al (2025) conducted research using a Systematic Literature Review (SLR), identifies key variables influencing knowledge sharing, highlights challenges, and proposes solutions to foster collaboration. The findings reveal that cultural barrier, such as competitive organizational environments and technological constraints, including high costs and user-friendly systems, significantly hinder knowledge sharing. To address these issues, the study recommends implementing user-friendly technologies, promoting collaboration through seminars and workshops, and encouraging cross-departmental projects. These solutions provide actionable insights to enhance knowledge sharing frameworks and support innovation across academic institutions (Lalitha, Fernando, & Sama, 2025)

A study was conducted on improving IRs through user-centered design in Mexico. Data collection used focused groups for the qualitative data by investigating users' preferences so as to develop a new look with attractive functionalities for IRs (Perez,

et al. 2021). The findings indicated that half of the respondents were unaware of the benefits of their particular institutional repository. The study also identified users' impressions of services like Google Scholar, which facilitate academic generation. Also, the study revealed that motivating AS to use an IR, requires technological functions, providing user guidelines that establish research outputs that can be or cannot be published in OA. Also, there is need for training sessions on institutional repository and publication practices in open access (Perez, 2021).

Tor et. al. (2020) conducted a research study on how AS can acquire ICT competencies through different in Benue State, Nigeria. The study sought to establish ways of acquiring of ICT competencies and the differences of acquisition based on the various types of universities. The descriptive research design was used. Simple random sampling technique was used in selecting respondents. The findings of the study alluded that AS in universities acquired ICT competencies through private training facilitated by friends, family and colleagues; through workshops, seminars and conferences; through internet or online learning and computer assisted instructions (Tor, Idowu, & Soretire, 2020). This shows that academic staff made personal efforts to acquire and develop ICT competencies.

Ogunyemi et al. (2023) conducted a study with the purpose of achieving organizational goals that are sustainable, efficient Knowledge Management Practices (KMPs), which focus on closing skill gaps among personnel, are essential to managing companies and educational institutions. But the issue of inadequate knowledge management, which has constantly hampered public university employees' ability to acquire necessary skills, has made study into the central domain of educational growth in Nigeria necessary. This research looked into how Knowledge Management Practices (KMPs) affected the academic staff's ability to acquire new skills at a few Federal Universities in south-west,

Nigeria. Out of the entire population of 5720 academic staff members, 884 respondents completed the provided structured questionnaire. The stratified sampling was utilized (Ogunyemi, 2023). The findings revealed a link between academic KMPs and skills acquisition in HEIs in southern-west of Nigeria. The study concluded that KMPs are enablers of skill acquisition. As a result, the study recommended that university administrators work to improve their KM procedures in order to improve skill acquisition within their academic staff. The study was conducted in a public university in Nigeria while this study was conducted in public and private universities in Kenya.

A study in Nigeria investigated the frequency of use of platforms powered by ICT for KS by librarians in academic institutions. The study sought to establish barriers and ways that can promote efficient use of these platforms (Ngozi, Akpan, & Adedokun, 2014). The study utilized the descriptive survey design through the use of questionnaires to 52 professional librarians in selected academic libraries. The study found out that the use of ICT based platforms vis-à-vis traditional platforms were increasingly being utilized by the academic librarians (Ngozi et al., 2014). However, they were faced by limited ICT skills, their ignorance on existing ICT platforms and an environment that is technologically unhealthy. The study advocated for maximum utilization of ICT based KS platforms so as to enhance KS and professional development collaboration, communication of scholarly output and an efficient way of delivering services. The study was conducted on librarians in a public university in Nigeria while this study was conducted among AS in public and private universities in Kenya.

According to Muslim (2024), conducted a study that investigated on the impact that digital transformation has on access, user experience and KM in academic libraries. The findings indicated that there were significant improvements more so in access to

resources and which led to increased user satisfaction by use of digital tools. However, to note challenges remain in the design of the interface and digital training. With the introduction, of AI-driven KMS, this has improved accuracy and efficiency of information retrieval. However, with progress, issues such as financial related challenges and the need for inclusiveness in digital training speak out for the need for continuous development (Muslim, 2024).

A study in a public university in Ghana investigated the ICT literacy among lecturers was conducted by (Kwame, 2024). The study adopted a survey design by employing the stratified random sampling techniques where 96 of 526 lecturers were selected. The study found out that the lecturers' level of ICT competence was good. Despite having competent ICT skills, the lecturers' familiarity with academic resources was rated poor. The researchers suggested interventions to be deployed to aid lecturers in the use of university's academic resources which will enhance in the dispensation of their duties and more so in teaching. The study used lecturers in a public university in Ghana while this study was conducted on all cadres of academic staff in public and private universities in Kenya.

The ICT competence among academic staff in the State of Cross Rivers, Nigeria study was conducted by (Archibong, Ogbiji, & Anijaobi-Idem, 2010). The study established that the majority of the academic staffs (89.3%), have funded the sessions they have undertaken in ICT development training. The remaining academic staff (10.7%) have been assisted in their ICT training by their universities. The academic staff further indicated that their ICT competency to be low based on the inadequate ICT infrastructure, low or no funding to undertake ICT training and excess workload. With low ICT competency skills, academic staff will have challenges when using ICT platforms for knowledge sharing.

Nguyo (2016) in his study investigated the impact of ICT skills among employees of a Kenyan state corporation that is the Kenya National Library Service (KNLS) on knowledge sharing. The study had 142 respondents from 11 departments across the 60 branches of KNLS. The variables used on ICT skills were the use of online brainstorming, use of how to guide, use of Frequently Asked Questions (FAQs) and the ICT experience of the employees. The findings indicated that ICT skills positively affected KS in an organization. The present study sought to establish ICT skills among academic staff for KS in selected universities and the variables that were used to measure the objective were academic staff ability to access, use and deposit research into the IR.

2.4 University ICT Policy on Knowledge Sharing through Institutional Repositories

A policy is a guiding statement used by top management in execution of a project. Organizations such as universities have found it prudent for a knowledge management policy framework to be formulated and implemented in the institution's ICT policy. The lack of a knowledge management and knowledge sharing policy negatively impacts on the university's ability to competitively position itself in the knowledge economy of her country. Therefore, the development of knowledge sharing guidelines for staff working in universities and other organizations is imperative as well as the creation of an enabling environment so as to promote knowledge sharing.

According to Malay (2024) institutional repositories are important for science advancement, accumulation of research capital, data exchange within the global science community. The research conducted a survey of the specialists in charge of institutional repositories in 27 Russian and 11 Belarusian universities was conducted in 2023 and

2024. From the survey findings, the researcher established the key vectors of development of university-institutional repository interaction among them documentation procedures, repository technological and informational infrastructure, specifications and full-text data, repository promotion to the research and academic community. The researcher concluded that the participated universities are at a high level of repository support, though the lacking national policy of open science, the issues of academic repositories inclusion into the single research network hinder their progression (Malay, 2024).

Vatamanescu et al (2016) investigated practices of academic members in universities in European developing countries on harnessing intellectual capacity within academic social networks. The study's used questionnaire-based surveys with 210 university members of online academic networks. The findings indicated that effective organizational policies and practices have a positive influence on leveraging human capital in online networks which results in organizational and professional competitiveness (Vatamanescu, Andrei, Dumitriu, & Leovaridis, 2016). This study looked at academic members in European developing countries who are part of web-based social networks. The present study included academic staff in Kenyan universities regardless of their membership in social networks.

A study conducted by Fan and Beh (2023), highlighted knowledge sharing among academics in higher education in Malaysia. The study utilized the systematic literature review (SLR) method to thoroughly examine the variables that influence KS among professors at HEIs. Using electronic databases, forward and backward searches, and initial identification of 558 articles, a total of 50 papers from 2001 to 2021 have been chosen and synthesized. From their findings, technological related factors were understudied as compared to individual factors and organizational factors (Fan & Beh,

2023). From this study it focused on one designation of academic staff found in the university while the current study obtained data from all categories of academic staff found in a university.

Through the use of blended knowledge management and e-learning technologies, Abbas, Arovolo, and Higue (2021) empirically studied how to improve service delivery in higher education institutions. This study demonstrates the connections between various KM models, blended e-learning (BEL), and e-learning research. Despite the study and the current research focusing on educational institutions, the latter focused on knowledge sharing through institutional repositories.

Anatan (2022) conducted a study with the aim to explore strategies and policies in higher education that enable knowledge sharing initiatives. The study collected data from 21 informants from a number of private universities in Java, Indonesia. The findings of the study revealed that the policies and strategies of KS are related to attending workshops or seminars, funding received in support for research conducted and formation of forums around scientific discussion that enable KS activities (Anatan, 2022). The study at general policies in university that discusses KS activities while the current study looked at KS in a university ICT policy.

A study investigating knowledge sharing practices among academic staffs at the Zimbabwe Open University (ZOU). The study was undertaken at the 10 regional campuses of ZOU. A questionnaire survey was utilized to collect quantitative data from 100 academic staff in the 10 campuses. The study found out that the academic staff are willing to practice KS however the lack of a KS policy has a negative impact on the ability of a university to have a competitive edge as a knowledge driven university or institution (Chikono, 2018). With the current study sought to establish if the university

ICT policy discusses KS practices or activities especially through the use of university ICT platforms such as IRs.

Gichuhi (2014) studied factors that lead to effective KM in Nairobi and Kiambu counties. Selected university libraries formed the sample for the study. The study assessed the effectiveness of frameworks in organizations to support KM efforts. Organizational framework may include policies, processes, systems and strategic plans that should be put in place to support KM. Policies, standards of procedures and guidelines allows the use of organizational resources effectively and provides an assessment measure of its compatibility with organizational objectives. The study found out that the absence of a KM policy university libraries studied was acknowledged and may have led to lack of coordination in KS (Gichuhi, 2014). This study was conducted in university libraries and the librarians were the respondents. The present study sought to establish university ICT policies and how it supports KS through IRs for research collaboration and the academic staffs were the main respondents.

A study investigating different strategies and how technology has been integrated for knowledge sharing amongst academic staffs in selected institutions of HEI in Kenya was conducted (Kimile & Bulitia, 2020). Descriptive survey design was utilized and a qualitative research was adopted. Data was collected using semi-structured interview schedules from a sample of four public universities. Purposive sampling was used in identifying the respondents. The qualitative data collected was analyzed thematically (Kimile & Bulitia, 2020). The findings of the study indicated that KS in universities was done through various strategies that include conferences, workshops and seminars, mentorship sessions with the novice by technical experts, more so in disciplines that are science and IR. The study identified the existence of informal COPs, and the lack

of policies was the primary challenge to KS. The study established that the integration of information technology in KS was majorly asynchronous. This study collected data from Kenyan public universities while the current study looked at both public and private universities in Kenya.

An investigation on the impact of knowledge management skills on a five-star hotel's competitive advantage in Kenya was done by Kiseli, Senaji, and Eng (2016). This research focused on the ME's technology infrastructure, social infrastructure possibilities, process competence, and IP innovation flexibility. The study found out that organizations use knowledge management to expand product range without increasing costs. This study concluded that organizations in the hotel industry design process to facilitate the exchange of knowledge across functional boundaries. However, this study focused on service provision in the hospitality industry while the current research focused on knowledge sharing through institutional repositories found in universities.

2.5 Perception of Academic Staff in Knowledge Sharing

With institutional repositories being established in organizations, their availability gives the members of an institution the opportunity to interact with them. The first institutional repository (IR) in Kenya was published in 2011 and currently the country has 49 IRs (OpenDOAR, 2024). The IRs found in public and private universities contribute to an overwhelmingly majority which are 40 of the total 49 IRs. Therefore, this is interpreted that the universities have allocated and invested resources for establishing IRs and this indicates that they agree with the importance of having IRs which is to capture, share and disseminate knowledge and research outputs that have

been generated in the universities. This study sought to establish the availability of IRs in the selected universities.

Individual views and expression of knowledge sharing form behaviors that form the individual factors. Knowledge sharing behavior includes an individual's set of behaviors that involves sharing of expertise and experiences related to work with colleagues. This contributes to ultimate effectiveness and efficiency of organizations (Yi, 2009). According to Kopitar et al (2024), European academic publishing practices diverge into two cultures that is one favoring open access journals with accelerated review times, and another adhering to traditional legacy journals, driven by national and institutional strategic publishing decisions (Kopitar, 2024).

Aliyu (2016) looks at how professors at public colleges in northern Nigeria utilize ICT to share information. According to the survey, the majority of respondents do not use websites to disseminate knowledge among their personnel. This means that the vast majority of academics do not have websites or affiliations with any internet organizations. The challenges identified were a lack of sharing knowledge among colleagues due to inadequate staff training, research collaboration, and poor mentoring. This study was conducted in northwest Nigeria while the current study was done in Kenya.

Lapez and Murillo (2023) examined consumption of information and the impact of the IR of the Technological University of Panama (UTP) on the dissemination of academic knowledge. The study focused on RIDDA2, the IR of the Technological University of Panama (UTP), which houses 3,491 documents. However, the survey revealed that only half of the respondents were aware of the repository existence, and of these, only 31% had uploaded documents. Although repositories are less utilized compared to other information sources like academic social networks, those who use them find valuable

materials. The importance of institutional repositories for academic visibility is highlighted, but there is also a need to increase their promotion within the university community to enhance both their usage and the volume of content deposited. This boost is crucial for strengthening the visibility and impact of the university's scientific output (Lapez & Murillo, 2024).

A study was conducted in Malaysia by Rahman et. al. (2016), aimed at understanding factors leading to knowledge-sharing behavior (KSB) among the non-teaching staff of different Malaysian HEIs. Data collection utilized the survey method. The target population was the non-teaching staff of the different HEIs. The theory of planned behavior was utilized as the study's theory. The findings of the study indicated that subjective norms and attitude had a positive relationship on knowledge-sharing behavior. Moreover, the findings found out that positive attitude and norms leads to increase of positive KSB therefore have a direct relationship (Rahman, Osmangani, Daud, & AbdelFattah, 2016). This study determined the significance of perception on KSB, utilized the knowledge sharing model to support the theoretical framework of the study and the academic staff in universities were the target population for the study.

A study in a business school in India conducted on the purpose of capturing intellectual capital with an IR, stated that the main purpose of digital repositories is to capture, preserve and disseminate intellectual resources from staff in academic and research (Eden & Doctor, 2008). The intellectual output takes the form of scholarly publications and instructional materials. This research used the survey method in guiding data collection procedures. The findings of the study pointed out that the academic and research staff used electronic resources for publishing scholarly works and lecture materials. Also, the study further indicated that the culture of KS exists and they do express a positive attitude towards use of an IR. This study was limited to one discipline

that is Business schools and included academic and research staff. However, the current study included academic staff across different departments in selected universities.

Yeboah (2023), reviewed scattered literature on knowledge sharing. The objective of the study was to analyze the concept of knowledge sharing and to recommend on future research. The review process included developing a review procedure, carrying out the review, and reporting on the results. The study undertook a comprehensive review of 110 papers. The review focused on the knowledge sharing facilitators, procedures, and outcomes. The study found out that there is low awareness on the type of knowledge that contributes to competency development for a specific market. Also, there is a high concentration on KS enablers rather than barriers. Therefore, with these findings, the researcher recommended organizations to come up with knowledge sharing processes which should be in line with the overall organizational strategy, objective, and resources availed to maximize the benefits of knowledge sharing. However, the study was done on reviewed literature of research articles published on knowledge sharing, the current research collected primary data from the academic staff that describe their current state of KS via IRs.

To ascertain whether information sharing was employed to enhance service delivery in libraries, at the Thomas Mofolo Library in Lesotho, Tahleho, and Ngulube (2022) focused on knowledge sharing. This study triangulates interviews and questionnaires using a case study design. Interview data were analyzed in terms of content based on research objectives. The study found that although knowledge sharing in the library was not formalized, it was seen as important for service delivery. This study concludes that knowledge sharing in academic libraries can lead to service improvement and innovation in fulfilling their mission. However, the study was done in the context of a

school library in Lesotho, while the current research was conducted in Kenya and in the context of universities.

A study conducted in Iraq by Abbas (2018), investigated the KS behavior (KSB) among academics and the factors that affect them in the University of Baghdad. The study was an exploratory study with 326 academics in the university. Among the factors under investigation included the attitude of academics as a measurement of KSB. Expected rewards, expected benefits, expected relationships and connections with relevant persons were used as variables of attitude. The findings brought out that most of the academics strongly agreed that a positive attitude has an effect on academics KS intention (Abbas, 2018). This study investigated factors that lead academics to exhibit knowledge sharing behavior in one university in Iraq while the present study sought to study determinants of knowledge sharing through IRs among academics in selected Kenyan universities.

Ben (2022) performed research on the efficiency of knowledge-sharing procedures in government service organizations. A public sector survey is used to gather data. 358 32 examples of departmental collaboration from more than 90 different public sector institutions make up the sample. The value of trust and lateral cooperation is shown using structural equation modeling. Results demonstrated that informal coordination and power play appeared to be a particularly effective combination for knowledge exchange. However, this research is specific to government service companies, but did not cover private institutions as the current study covered both public and private universities.

Maiga (2017) undertook a study in selected Tanzanian universities on knowledge sharing. The study conducted to establish KS status of Tanzanian universities. The

mixed research method was adopted and utilized the survey design by administering questionnaires and a structured interview schedule to collect data (Maiga, 2017). The target population consisted of academics, librarians and deans of faculties totaling to 352 respondents (Maiga, 2017). The study found out that the deans of faculties, academic staff and librarians attributed to having a positive attitude towards KS. The study utilized academics, librarians and deans of faculties in Tanzanian public universities as the respondents. This study looked at selected private and public universities in academic staff in Kenya.

Teixeira (2024) examined the value of IRs and their role in ethical scholarly communication. Where AS are encouraged but not mandated to self-archive their research and knowledge outputs, IRs may function on a voluntary basis. However, with the absence of a mandatory self-archival requirement, content in IRs may be skewed. With the absence of motivational objectives, only self-aware academics will practice self-archival. Therefore, with the investment in the creation of IRs will need to offer greater value and benefit than these alternative platforms. Thus, IR managers, including librarians, will need to faithfully represent retracted and grey literature (Teixeira, 2024).

A study that was conducted in Pakistan highlighted and summarized the possible antecedents and factors that facilitated or impeded KM and KS in organizations (Asrar & Anwar, 2016). A review of 64 papers covering 2010 to 2015 was done. This covered qualitative and quantitative investigations on the causes and impediments to KM and KS. The bias on cooperation was the most common constraint in the majority of the research included in the review. The study suggested that future research studies on KM and KS should concentrate on investigating the same difficulties in developing countries across various sectors.

According to Kwame (2024) conducted a study that examined self-archiving by authors by through sensitization on IRs in universities. The case study and the framework for interpretation guided the study's qualitative methodology. The twelve (12) managers of institutional repositories with open access were the target population. A semi-structured interview guide was used during the interview process, and theme analysis was used to examine the data. According to the study, academic institutions should strictly enforce the author self-archiving procedure, and they should also provide incentives and strict norms for it (Kwame, 2024). This study collected data from the managers and administrators of the IRs found in universities in Ghana, whereas this study collected data from AS in institutional repositories in universities in Kenya.

Kabiru (2015) found that KM methods are applied in KM in a Nigerian agricultural research institute after conducting a study on knowledge management strategies and practices. This study discovered that tacit knowledge is generated through knowledge sharing in both formal and informal settings. This means that diverse knowledge-sharing methods are used by organizations such as libraries, and one approach that people utilize to share knowledge is brainstorming. Since brainstorming is an open and free atmosphere, it encourages everyone. This study was conducted in a research institute in Nigeria, which is a gap in scope.

In Kresta Laurel in Lagos State, Odunlami (2020) investigated how knowledge sharing impacted organizational performance. A questionnaire and a descriptive research approach were deployed. Using the formula obtained from Taro Yamanne, the study population of 123 business employees was further decreased to 76 employees as a sample size. The choice of employees was made via targeted random sampling. The pertinent data were also examined using descriptive statistics. The findings showed that

information sharing significantly impacts organizational performance. This study put more emphasis on service delivery, whereas this study concentrated on knowledge sharing through institutional repositories in universities in Kenya.

2.5 Reward Systems for Knowledge Sharing

Knowledge sharing may not be a function that people may openly contribute to, especially in organizations. Therefore, for organizations to tap into knowledge held by its members, the leadership of these organizations need to motivate staff to share knowledge by devising strategies and systems.

Liu and Li (2017), investigated the effects of different types of monetary rewards on knowledge contribution behavior. The researchers mentioned that where an individual contributes or shares knowledge, the knowledge benefits the organization greatly besides the cost incurred by the individual. Therefore, for knowledge contribution to be continuous, organizations should reward or compensate individuals for their contribution. However, various studies have shown both positive and negative relationships between rewards and knowledge contribution. The study utilized an experimental design on 144 undergraduate Chinese students. The finding brought out two types of monetary reward types that are incremental and decremental rewards. The incremental rewards were additional rewards to individuals for obtaining outstanding achievements. Where this type of reward was applied, individuals would increase the quantity of knowledge contributed. On the other hand, decremental rewards were applied on deducing errors, which increased the quality of knowledge contribution by individuals (Lin & Liu, 2017). The study focused on monetary rewards on knowledge contribution among undergraduate students of Chinese culture while the present study

sought to establish all the reward types utilized and applied in public and private universities among academic staff in Kenya.

Lin and Lo (2015) conducted a study in collaboration with a healthcare organization in Taiwan. The purpose of the study was to develop a theoretical model that brings together two mechanisms that can explain sharing of knowledge. The two mechanisms included the Calculative Based Mechanism (CBM) which posits as the traditional monetary rewards. The second mechanism is the Relational Based Mechanism (RBM) which founded on the social networks of an individual where one makes deposits or withdrawal of knowledge during their social interactions in their networks. The study collected data from 180 respondents who were nurses working in a regional teaching hospital. The study found out that CBM was beneficial to knowledge sharing while RBM played a complementary role in awarding individuals for KS (Lin & Lo, 2015). The study focused on integrating rewards on knowledge sharing among nurses working in a teaching hospital in Taiwan while the present study sought to establish all the reward types utilized and applied in public and private universities among academic staff in Kenya.

Kumaraswamy and Chitale (2012) conducted a study in India on how organizational learning can be enhanced through collaborative knowledge sharing strategy. The study proposed to assess ways on how academic institutions can enhance a collaborative knowledge sharing culture especially on education related to Faculty of management, Information Technology (IT) at the University of Pune. The study utilized descriptive and empirical designs for collecting primary data through the use of interviews and questionnaires to the respondents. The findings of the study indicated that for the KS culture to be empowered in academic institutions there is need to develop human resource practices that can reward and recognize efforts applied by personnel who share

their knowledge. This therefore, brings out an empowered collaborative KS culture (Kumaraswamy and Chitale, 2012). This study was conducted in one university and one discipline offered in the university while the present study was conducted across different faculties in selected universities in Kenya.

A study conducted on faculty members of Management Institutes in Indore city in India sought to examine impact that different types of reward systems have on an individual's perception towards KS. The study collected data from 200 respondents through the use of questionnaires (Singh & Ahuja, 2020). The findings revealed that psychological rewards as well as monetary rewards are a motivator among members of the faculty. Also, verbal rewards demonstrated through positive feedback from colleagues and supervisors was found out to motivate individual faculty to share knowledge (Singh & Ahuja, 2020). The study focused on the impact of rewards on KS among faculty members in India while the present study sought to establish all the reward types utilized and applied in public and private universities among academic staff in Kenya.

A study in public institutions in the United Arab Emirates (UAE) was conducted by Dari, Jabeen, and Papastathopolous (2018), reviewed the role of leadership inspiration, rewards and its relationship towards contribution to KS. Data was collected from 154 employees of a law enforcement institution of the UAE who were attending a training workshop. The findings showed that the reward systems used had no significant impact on members contributing to KS, that is colleagues in the law enforcement organizations will share and exchange information regardless of any return (Dari et al 2018). This study focused on employees of public institutions in the UAE, while the present study sought the views of academic staff in public and private universities in Kenya.

Chikono (2018) in his thesis conducted a study on KS among academic staff of Zimbabwe Open University (ZOU). ZOU has regional centers across the 9 provinces of Zimbabwe. The study utilized 113 academic staff of 4 major academic field studies of the university in the regional centers. The findings presented that the majority of the respondents expressed that the university lacked a rewards and recognition system that encourages KS (Chikono, Knowledge sharing practicesamong academics at the Zimbabwe Open University, 2018). However, 25.6% of the academic staff in ZOU, had a neutral response on the availability of a rewards and recognition system. This raises the question on perception and awareness of the rewards systems among academic staff. This study sought to establish the availability of reward systems on KS in selected universities and awareness, relationship and impact among academic staff.

As noted by Njiraine (2019), although the various higher education institutions provide digital infrastructure to allow the academic and research community open and free access to information (digital resources), the uptake of knowledge sharing practices is not adequate enough to reach up to the efforts. HEIs′ lecturers, researchers and academics must embrace information sharing if they hope to be innovative, well-known, and competitive. This study emphasized both the advantages and challenges of information sharing. Based on predetermined objectives, the research employed content analysis as a methodology to analyze print and electronic materials. According to the review, information sharing is essential for innovation, but it hasn't been properly adopted by the target community (Njiraine, 2019). The study suggested various ways in which sharing of knowledge can be affected in HEIs. They included creating awareness on benefits and incentives of sharing of knowledge to both the targeted clients and the stakeholders.

According to Mosoti and Masheka (2010) as presented by Sirorei (2017), they studied on Kenyan organizations on knowledge management based in Nairobi. The study consisted of 53 profit organizations and 16 non-profit organizations. The findings presented by Fraczyk and Godfrey (2010) show that the majority of the respondents stated that they did not receive monetary incentives against 20% of the respondents who stated that they received. As presented by Fraczyk and Godfrey (2010), the majority of the respondents stated that they did receive non-monetary incentives when sharing knowledge while a quarter of the respondents stated otherwise. From the above response, monetary incentives were rarely administered to employees who practiced KS. The researchers recommended the application and utilization so as to motivate employees to produce knowledge by embedding the rewards systems both monetary and non-monetary incentives in an effective performance measurement and appraisal tool.

2.6 Summary of Research Gaps

The above reviewed studies have touched on knowledge management and knowledge sharing across several disciplines and the world. However, what stands out is and which this study sought to bridge is that none of the reviewed studies has focused on knowledge sharing through institutional repositories for research collaboration and more so in Kenya.

Some of the studies were conducted in Middle East, South East Asia and European countries that have fully embraced and implemented KM and more so KS. It was evident that these countries such as Mauritius, Malaysia and Indonesia are ahead in implementing the components of KM in the academic environments of the HEIs. Since the studies on KS were conducted in other countries besides Kenya, the findings could

not be generalized to all other countries as there may be unique factors that may affect the findings and hence there was need to conduct the study in the Kenyan context.

Several studies have captured views of librarians in university libraries on KM efforts and ways of implementing the components that enable an effective KM environment. Other studies have been conducted on academic members who are part of network based social networks and students of universities. This study utilized the academic staff of public and private universities as respondents as opposed to using information professionals so as to bring on board their views on KS.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter contains; research design, population of the study, research locale and the sampling technique and sample size determination. The chapter also includes the research instrument used, reliability and validity of the research instrument, data collection procedures, data analysis and presentation, and the logistical and ethical considerations that were observed.

The aim of this chapter is to provide an understanding of the research topic by ensuring the findings are significant and are a representation of the target population. This was enabled by combining quantitative and qualitative data collection and analysis methods. Therefore, by documenting the methodologies applied in detail the chapter seeks to provide transparent processes and acts as a foundation for future researchers.

3.2 Research Design

According to Orodho (2003), defines a research design as the plan used to generate solutions so as to address research problems. This study utilized the descriptive research design. Descriptive research design was considered as the most appropriate because the researcher intended to obtain the determinants of KS among academic staff through institutional repositories. The research design selected provided an outline on which the study was carried out and describes the respondents in their natural environment without influencing them. This enabled the study to be conducted in a systematic manner (Orodho, 2003).

Therefore, this design was deemed appropriate for the study and the questionnaire was the data collection tool used for collecting primary data. Both qualitative and quantitative data was collected. Qualitative data was obtained through open-ended questions of the questionnaire which yielded narrations presented in the appropriate themes of the study and quantitative data was obtained from the close-ended questions.

3.2.1 Study Variables

A variable is a measurable characteristic that assumes different values among the subjects. The study investigated the independent and dependent variables. They are discussed as follows.

Independent variables

The independent variables included:

1. ICT skills among academic staff

   The academic staff up-to-date ICT skills can also determine the success knowledge sharing through IRs. This skill enables them to generate and share knowledge in the IRs through self-archiving. In addition, availability of personal computers and internet connection provision at their work stations enables academic staff to generate and share their research output with efficiency.

2. The university ICT policy

   A supporting University ICT policy on KS should have a positive impact on the knowledge sharing behavior among academic staff through IRs in the respective universities. Also, the policy acts as an enabler in leveraging the human capital of

university which in itself has a positive impact on the university by competitively placing itself in the higher education sector.

3. Perception of academic staff

The academic staff are expected to be aware of the availability of IRs and the contents of the IRs established in their universities. Their awareness enables them to perceive their respective university IRs to be of quality so as to utilize and eventually generate and self-archive their knowledge and research output for sharing through IRs. Therefore, positive perception would form the knowledge sharing intentions through institutional repositories among academic staff.

4. Reward systems

A motivating reward system should positively influence the knowledge sharing behavior among academic staff through IRs in the respective universities. The reward systems can take the form of monetary and or non-monetary. It is imperative for an organization such as a university to select the types of rewards to implement and evaluate its impact to the targeted staff members and the university stakeholders.

Dependent variable

The dependent variable was knowledge sharing through IRs and depends highly on the academic staff KS intentions through their perception and ICT skills with the influence of the University ICT policy and reward systems.

3.3 Research Locale

The study focused on public and private universities in Kenya so as to ensure a fair representation of institutions in the Kenyan higher learning industry. Universities have

diverse practices and resources used in regards to management, preservation and dissemination of knowledge and research outputs.

The specific research locale comprised of University of Embu (UoEmbu) and St Paul's University (SPU) that is a public and private university respectively due to a number of key determinants. These universities are found in Kiambu (SPU) and Embu (UoEmbu) counties which offered a diverse geographical comparison to this research. The selected universities under consideration have been chartered in the last decade which places these institutions as relatively new in the higher education industry. Also, universities that are newly chartered face challenges in establishing and upgrading their resources for effective IRs. With these universities building the culture of research and knowledge generation and sharing, it was ideal to study the determinants on how academic staff contributed to their respective IRs. Therefore, the above factors informed the researcher to examine their institutional repositories where academic staffs contribute their knowledge and research output in both private and public universities.

3.4 Target Population

A research population is defined as a group of persons, items or objects from which the sample size will be taken from. The population for this study was composed of academic staff across all cadres. The respondents were selected since they are required to contribute to the research function of the university by disseminating and sharing their research output more so through IRs. The target population for this study was composed of 151 academic staff from the selected universities as shown in Table 3.1.

Table 3.1 Target Population

Name of University	Target Population
University of Embu	81
St. Paul's University	70
Total Population	**151**

Source: University Website Faculty Profiles

3.5 Sampling Technique and Sample Size Determination

3.5.1 Sampling Technique

A sample is a subset of an entire population as described by Mohsin (2016). Sampling is a process of selecting a number of persons or objects from a population because they represent the entire target population (Orodho, 2003). The technique utilized in sampling refers to the design that will assist in selection of respondents. This study used the simple random sampling method which involved assigning a number to respondents of the accessible population. This technique enabled the researcher to carry out the study on academic staff selected randomly in departments that have deposited most and least and the reasons factoring their contribution towards knowledge sharing through IRs.

3.5.2 Sample Size Determination

The sample size in a research study is a set of respondents selected to represent the target population. Gay (1983) suggests that for descriptive studies 10% of large population and 20% of small population as minimum is enough. Therefore, this study

targeted to reach out to 40% of the target population of the academic staff which is shown in table 3.2.

Table 3.2 Sample Size Determination

Name of University	Determined Sample Size
University of Embu	30
St. Paul's University	29
Total	**59**

Source: Researcher 2022

3.6 Research Instrument

According to Kombo and Tromp (2006), research instruments are tools used for collecting data from respondents. This study used the questionnaire as the research instrument for collecting primary data. The questionnaire was a good tool because it collected data from the respondents who were unevenly distributed across two counties and against a short period of time. The questionnaire had five sections where the first section contained questions on the demographic information about the respondents. The remaining four sections were questions on the research variables. The questions formulated utilized the Likert scale that is (1= strongly disagree, 5= strongly agree).

3.6.1 Validity

Validity is the measure of how well a research instrument measures the study's variables as presented by Mugambi (2014). The content of the questionnaire adequately covered the thematic areas of the research as posed in the research questions. To enhance content validity, the researcher sought expert review from university supervisors and subject specialists in the field. In addition, a pre-test was conducted with 10 respondents drawn

from the Management University of Africa to identify any ambiguous questions, after which necessary adjustments were made for the actual study.

3.6.2 Reliability

Dornyei (2013) in his works, defined the reliability of a data collection instrument as the degree to which the data collection instrument is free of measurement error (Dornyei, 2013). The pilot study involved an equivalent to a tenth of the sample size, were obtained from members of the target population. The data results from the pilot study was analyzed using Cronbach Coefficient. This research used Cronbach's alpha coefficient of 0.7 which is considered dependable (Cronbach & Hedge, 2001). The reliability results from the pilot study showed an average reliability index of 0.73775 which being above 0.7 is a mark of acceptable reliability as illustrated in Table 3.3.

Table 3.3: Reliability Test Results

Variable	**Alpha value**
ICT skills of academic staff	0.706
University ICT policy	0.827
Academic staff perception	0.715
University reward system	0.703
Average Reliability index	0.73775

Source: Author (2025)

Table 3.3 indicated that ICT skills of academic staff setting had an index of 0.706, University ICT policy had an index of 0.827, Academic staff perception had a an index of 0.715 and University reward system had an index of 0.703 all of which were above 0.7.

3.7 Data Collection Procedures

The researcher sought an introductory letter from the Graduate School, identifying the researcher as a student of the institution. The issued letter from the Graduate School was presented by the researcher who sought authorization to conduct research in the selected universities. A permit from the National Commission for Science, Technology and Innovation (NACOSTI) was issued to the researcher (see Appendix III). The researcher booked appointments with the various universities selected for the study so as to try to reach a consensus on the appropriate day and time when data collection can be conducted. On the data collection day, the researcher administered the questionnaires to the academic stafASf. The academic staff were given ample time to fill the questionnaires.

3.8 Data Analysis and Presentation

Data analysis involves the processing of raw data collected from research to create information that is meaningful to serve the study's purpose. Data analysis on quantitative collected used descriptive statistics with the aid of Statistical Package for Social Scientists (SPSS) 25th version. For qualitative data, responses were analyzed thematically based on the study's objectives.

3.9 Logistical and Ethical Considerations

3.9.1 Logistical Considerations

The researcher’s respective Faculty wrote to the Graduate School notifying them of the researcher’s intention to conduct the study. The Graduate School wrote an introductory letter to the regulating authority on research. Permission to conduct the study was

sought from the National Commission for Science, Technology and Innovation (NACOSTI) where they provided a research permit that should be used for a period of one year. Also, the researcher sought permission from the management of the universities selected where the research study was to be conducted and finally, an introductory letter to the respondent was attached to the questionnaire to be used on the benefits and responsibilities that the study sought to address.

3.9.2 Ethical Considerations

The respondents were informed of the purpose of the study and informed consent was obtained from them before participation. The researcher explained to the respondents that the information they gave was to be treated with confidentiality. The respondents were not required to expose their identities and they were encouraged to provide true and correct responses. This research report was complemented by referenced sources that have been duly acknowledged. Where text, data or graphics were borrowed from other sources, they were accredited and references cited adequately.

3.10 Response Rate

Based on the feedback, adjustments were made before administering the final questionnaire. Out of a total sample population of 59 respondents, 36 successfully completed and returned the questionnaires, yielding a response rate of 61%. This was appropriate for analysis since it concurred with Babbie (2007) who posited that a 50% response rate is deemed fit for analysis and publishing, 60% is good and 70% is very good.

Table 3 3 Response Rate

Category	**Frequency**	**Percentage (%)**
Target Population	59	100
Responses Received	36	61
Non-responses	23	39

CHAPTER FOUR

PRESENTATION OF FINDINGS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter presents the findings, interpretation and discussion of the results. The findings were presented in illustrations such as tables, graphs, charts as well as narration in prose form. The discussion of the findings for the research study are based on the main purpose which was to establish the determinants of knowledge sharing through the institutional repositories among AS in public and private universities.

By providing a clear and accessible summary of the study, drawing relevant conclusions, and offering actionable recommendations, this chapter aims to provide value to the academic community, practitioners and policymakers alike.

Finally, the chapter outlines recommendations for further research. These recommendations seek to guide future research on the topic and contribute to the comprehensive body of knowledge in the field.

The following research objectives guided this study:

1. To determine academic staff ICT skills in knowledge sharing through IRs.
2. To examine the awareness and articulation of the university ICT policy on knowledge sharing via IRs.
3. To establish academic staff’s the perception on sharing of knowledge through institutional repositories.
4. To examine reward systems utilized in awarding academic staff who practice knowledge sharing through IRs.

4.2 General Information

In this section, the questionnaires administered to the respondents captured the designations of the academic staff. This information was indicated and considered important by the researcher in making conclusions on knowledge and research output created and shared through their institutional repositories found at University of Embu and St Paul's University. The university academic staff are categorized across different cadres. The cadres include full professor, associate professor, senior lecturer, lecturer, tutorial fellow and graduate assistant. For an academic staff to move up the cadres they are required to be promoted on the basis of teaching, research and consultancy as guided by the University guidelines (2016). Therefore, the different designations among academic staff are highly contributed by the research output that they publish and share. This is then used for promotion of individual academic staff to higher levels in the academic staff cadre.

To capture the data on the different designations among the academic staff, the respondents indicated the designations in terms of graduate assistant, tutorial fellow, lecturer and senior lecturer. The results are summarized and presented in Figure 4.1 below.

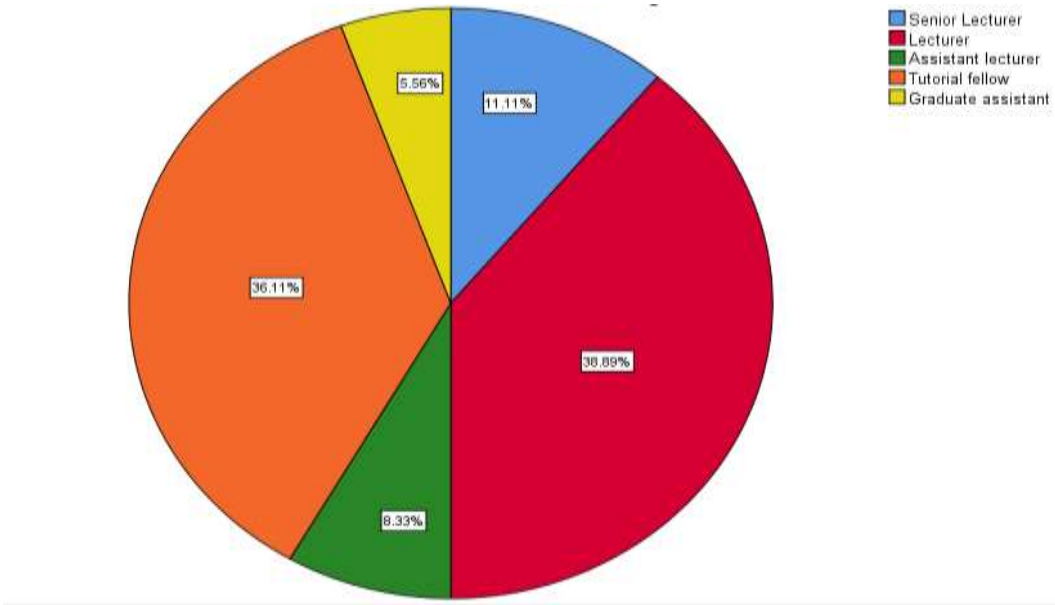


Figure 4. 1 Academic Staff Designations

The findings showed that the lecturers (38.89%) and tutorial fellows (36.11%) at the two universities had the highest respondents, while graduate assistants (5.56%) were the least represented. The few numbers of assistant lecturer (8.33%) and graduate assistants (5.56%) show that the academic staff have furthered the requisite academic certifications for promotion to the cadres above them. This has resulted to high numbers of tutorial fellows and lectures. Notably, there was low representation of senior lecturers (11.11%) and none at associate and full professors. Promotion to senior positions is based on awarded publication points to an individual academic staff.

From the findings, it is noted that academic staff in universities are categorized across different cadres. For an academic staff to move up the cadres they are required to be promoted on the basis of teaching, research and consultancy as guided by the University guidelines (2016). The publication of knowledge and research outputs takes the bulk of reasons for promotion. With this information, academic staff are required to publish and share their research outputs. Therefore, this study presents low presentation of senior positions such as senior lecturers, associate professors and professors is reflected

through low or no knowledge or research products shared and in this case through university institutional repositories.

As attributed by (Eden & Doctor, 2008) universities are investing resources in establishing IRs, the main purpose of IRs such as in business schools in India is to capture, preserve and disseminate knowledge output from staff in academia and research. Therefore, the success of these IRs also relies on the partnership of universities with its academic staff who are key contributors of knowledge and research outputs (Dutta & Paul, 2014). However, with the few members who are publishing knowledge and research outputs, these then results to low research output in the institutional repositories found in universities.

4.3 ICT Skills among Academic Staff

This study sought to investigate the ICT skills among academic staff (AS). The provision of information and communication technology in universities has facilitated dissemination and communication of research and knowledge outputs generated by academic staff. With the inclusion of these ICT platforms, ICT skills among academic staff are key determinants for effective sharing of knowledge and research outputs. Therefore, it was necessary to find out the adequacy of the ICT skills of academic staff because knowledge sharing through IRs require adequate ICT skills without which academic staff cannot upload their research output to the IRs.

4.3.1 Level of ICT skills among academic staff

With the provision of technology to enable knowledge sharing in an organization, people who possess the ICT skills, knowledge and training are able to be effective in knowledge sharing as cited by (Nguyo, 2016). The determination of the level of the ICT skills among academic staff was considered important so as to evaluate how well

they could access, utilize and contribute research outputs in IRs by using their current ICT skills that they possess. The respondents indicated the level they considered their ICT skills were in terms of limited, moderate or proficient. The results were presented in Figure 4.2.

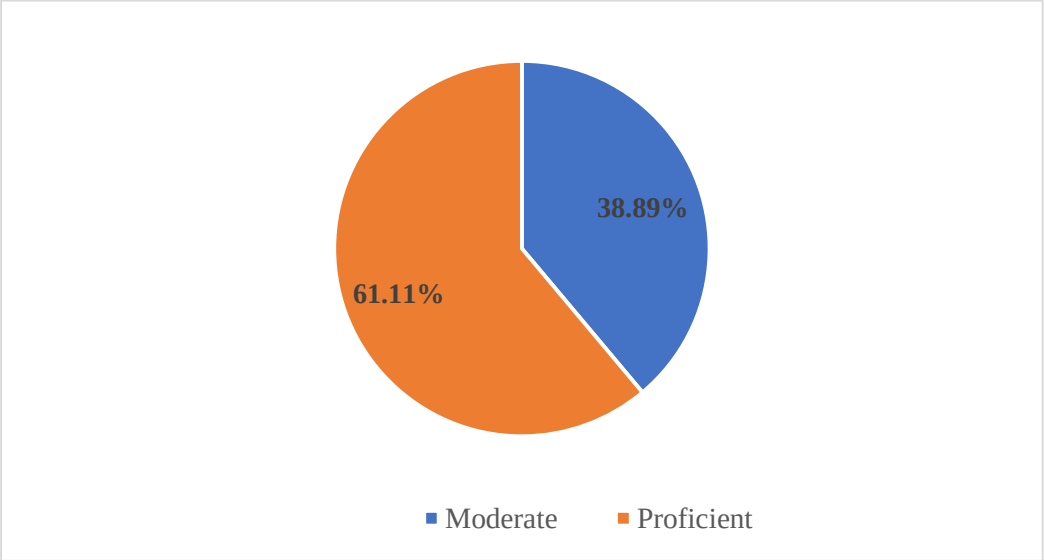


Figure 4.2 Level of ICT Competency Skills

Figure 4.2 above indicates that more than half of the AS (61.1%) rated themselves to have proficient ICT skills while the remaining staff considered themselves to have moderate ICT skills (38.89%). With 38.89% of the respondents, who regarded their ICT skills to be moderate, it is an implication that this category of respondents has a challenge on knowledge and research outputs contribution and subsequent sharing.

With academic staff rating themselves having proficient ICT skills this states that they are in a position to not only generate knowledge and research outputs but also to upload the same to their respective university institutional repositories. This finding agrees with the study that was conducted by (Nguyo, Influence of ICT in state corporations, 2016) where the researcher investigated the influence of ICT skills among employees in the Kenya National Library Services and found out that ICT skills positively affected KS in an organization.

From the above findings, determination of the level of the ICT skills among AS was considered important so as to evaluate how well academic staff can access, utilize and contribute research outputs in IRs by using their current ICT skills that they possess. However, where the ICT skills of academic staff could be deemed moderate this may limit their ability to generate and share their knowledge and research products. This is because repositories are ICT based systems that require staff to have up-to-date ICT skills for navigation and access. This then results to some faculties having little or no contributions made or shared through their respective university IRs. According to Archibong, Ogbiji, & Anijaobi-Idem, (2010), they established that academic staff indicated their ICT competency to be low based on low or no funding to undertake ICT training and excess workload.

Without evaluating the competence of the ICT skills of academic staff to enhance knowledge sharing through IRs, the goals on which institutional repositories were established for and the invested resources will go to waste. Therefore, proficient ICT skills enable academic staff to generate and share their research and knowledge outputs and more so through IRs. At the same time, they will be able to access and use knowledge and research outputs of their colleagues available at their university IRs. However, with low ICT competency skills, academic staff will have challenges when generating, sharing and accessing IRs for knowledge sharing.

4.3.2 ICT Infrastructure

Academic staff with proficient ICT skills were able to generate and share their research and knowledge and outputs and more so through their university IRs. The university IRs are required to be supported with good ICT infrastructure. A good ICT infrastructure is a key factor for successful knowledge sharing practices in an organization alongside the ICT skills of its staff (Nguyo, 2016). A well-defined ICT

infrastructure is made up of computer hardware, software, network facilities and internet connectivity. The investigation on provision of ICT infrastructure to AS at the universities was necessary to be conducted. The generation and sharing of academic staff research output in IRs is greatly facilitated by the availability and installation of the mentioned components of the ICT infrastructure.

This study investigated the provision of personal computers to academic staff by their respective universities and internet connectivity to the personal computers. First, this study sought to establish if the AS were provided with personal computers at their work stations by their universities because these PCs provide generation and storage capabilities of their research outputs which then facilitates knowledge sharing as presented in Table 4.1.

Table 4. 1 Provision of Personal Computers at Work

Provision of Personal Computers at Work	Frequency	Percent
Yes	32	88.9
No	4	11.1
Total	**36**	**100.0**

From Table 4.1 above, the majority of the respondents (89%) stated they were provided with personal computers at their work stations while a few were not provided with PCs at their work stations. However, where respondents (11.1%) who indicated that they were not provided with PCs at their workstations, this affects their ability to contribute meaningful research outputs for knowledge contribution and sharing. Knowledge sharing through IRs requires an individual to have proper ICT infrastructure such as a personal computer. This acts as an enabler in uploading and self-archival of knowledge and research output in IRs.

The ability of an institution to provide PCs to their staff is a motivator for them to upload and self-archive their knowledge and research output through IRs. This is because a number of staff may not all have their personal laptops that may substitute their lack of PCs. The availability of PCs to academic staff facilitates service provision to the university fraternity especially by accessing information resources and ICT platforms of the universities such as the institutional repositories. This therefore results to the generation of knowledge and research outputs for sharing and depositing in IRs are compiled using the PCs.

Together with having personal computers as part of the ICT infrastructure, they are required to be connected to the internet. Internet connectivity enables access to online websites and servers that universities have tapped to increase their visibility and access to knowledge that they produce. The researcher further sought to find out if the personal computers provided at work have internet connectivity for the purpose of establishing if academic staff are able to deposit and share their knowledge and research outputs especially through IRs. The results are presented in Table 4.2.

Table 4. 2 Internet Connection to the Personal Computers

Internet Connection to Personal Computers	Frequency	Percent
Yes	32	88.9
No	4	11.1
Total	**36**	**100.0**

Table 4.2 above illustrates that majority of the Personal Computers were connected to the internet which corroborates with the number of PCs provided to the respondents in the previous research question. From the above two tables, the availability of PCs and

internet connectivity to academic staff are enablers in teaching, research and consultancy activities to be effective and efficient. This finding agrees with (Omona, Weide, & Lubega, 2010) on KS applications relying on provision and installation of ICT infrastructure and support.

Through the provision of personal computers to academic staff in universities, the management are giving equitable access to resources albeit other duties that may be administrative. A further connection to internet provides academic staff to access the academic world through research journals and databases. Therefore, where there is internet connection, this enables academic staff in generation and sharing of knowledge and research outputs.

However, the findings of this study differs with (Ngozi, Akpan, & Adedokun, 2014) where they found out that besides limited ICT skills and ignorance on existence of ICT platforms by academic librarians, as an environment that is technological unhealthy could be a barrier to use of ICT platforms for KS. This is so, because the academic staff indicated that the ICT infrastructure at their work stations was adequate and thus should facilitate the sharing of knowledge and research output via IRs. Rahoo (2021), studied librarians who were working in the higher education institutions of Pakistan. The study findings concluded despite the LIS educators having numerous ICT skills they were discouraged in their quest for gaining ICT skills when considering high cost of the ICT gadgets and the state of the environment where these gadgets could be deployed for use.

With the availability of appropriate ICT tools enables the success of knowledge management and knowledge sharing. The provision of personal computers to each academic staff and the PCs being connected to the internet is a further enabler to the academic staff generating ad sharing their knowledge and research outputs through their

institutional repositories. Therefore, the existence of an ICT infrastructure decentralizes the power to take initiative and empowers collaborative work processes.

4.3.3 Training on Institutional Repositories

For a successful knowledge sharing and management practices in an organization, a good ICT platform is a key factor (Omona, Weide, & Lubega, 2010). The ICT platforms established are often known as institutional repositories. With universities implementing their mandate in providing effective teaching, learning, research and consultancy services, the implementation of institutional repositories becomes a necessity (Omeluzor, 2014).

With the academic staff having acquired the adequate ICT skills and the universities providing and installing the required ICT infrastructure, the IRs developed are required to share knowledge and research output to the university fraternity. The AS are required to deposit and share their knowledge and research output through the IRs. Therefore, there is need for AS to be trained on how to access, use and deposit research output in the IRs. This study sought to identify whether the AS have undergone training on IRs. The findings are as illustrated in Figure 4.3.

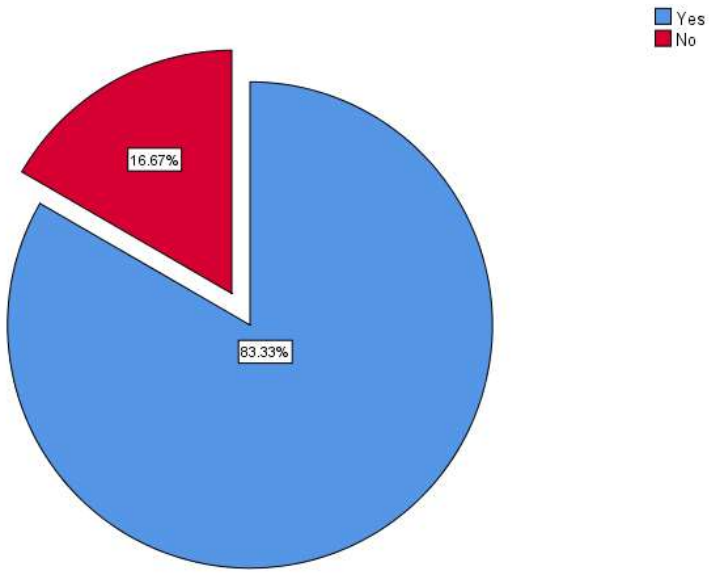


Figure 4.3 Training on Institutional Repositories

Figure 4.3 above shows that over 83.33% of the respondents have been taken through training on institutional repositories. However, a significant number of respondents (16.67%) have not gone through training on IRs. The main purpose of institutional repositories such as in business schools in India was to capture, preserve and disseminate intellectual output from staff in academia and research (Eden & Doctor, 2008). The lack of training on accessing IRs by academic staff can lead to low or no deposit of research output to be shared through their universities IRs. Therefore, this explains the difference in contribution of research output by academic staff in some departments making more deposits of their research than other members of other departments.

The training on accessing the IRs enables individuals such as academic staff to be efficient in contributing to their IRs through depositing their knowledge and research outputs. Similarly, a study was conducted on improving the IRs through user-centered design in Mexico (Perez, 2021). The findings indicated that half of the participants were unaware of the benefits of their particular institutional repository. Also, the finding

revealed that motivating AS to use an IR, requires technological functions while the provision of user guidelines that identify research outputs that can be or cannot be published in OA. Also, there is need for training sessions on institutional repository and publication practices in open access (Perez, 2021). These measures would align with global direction and strategies to strengthen the digital scientific communities and be of benefit to open science.

Moreover, Buragohain and Kumar (2021) conducted a study on the management and maintenance of institutional repositories of selected universities libraries of Assam in India. The study primarily focused on knowing the present scenario of institutional repositories in libraries of universities, the policies and procedures employed while implementing institutional repositories (Buragohain & Kumar, 2021). Also, the study further established the initiative taken by university libraries in creating awareness about institutional repository and to know various professional training given to the staff by library with regard to institutional repositories.

Besides this study establishing if training on accessing the IRs enables individuals such as academic staff to be efficient, the study went further to establish the lessons that the respondents derived from the training they went through on accessing institutional repositories. These are summarized in Table 4.3.

Table 4. 3 Lessons from IR Training

Lessons from IR Training	**Frequency**	**Percent**
Learnt on benefits of IR	6	20%
Provided useful information	15	50%
Learnt on accessing of research output in IR	9	30%
Total	**30**	**100%**

Table 4.3 above shows the what was derived from the training in IRs that the respondents went through. The majority of those who have gone through training on IRs indicated benefits of IR, provision with useful information on IRs, accessing of research output and benefits of IRs. These lessons were revealed from the respondents' statements. For example, one of the respondents stated that *"**very useful and interactive** "*. Another respondent said *"**the training was very helpful as I know where I can get open access articles via IR**"*. One more respondent stated *"**was really educative to me and students**"*. One more respondent said *"**I managed to do my research through IR. That is, I discovered more information regarding my study**"*. Yet another one said *"**the training was so helpful it made access of all information easier**"*. One said *"**it was very useful. I got to learn on the many benefits of IR**"* Finally, one respondent said *"**I can now access materials/research output deposited in the IR**"*.

From the selected voices of the respondents, it was possible to deduce that the training on IR among academic staff had taken place and they derived lessons that they are applying even in their research studies. Studies on AS awareness of IRs observed that a significant percentage of academic staff stated that they were aware of the IR concept, its availability, content and its benefits (Kayungi, Sichalwer, & Manda, 2021).

The 16.7% of respondents indicated that they had not gone through training on institutional repositories and therefore did not respond on lessons derived from training on IRs. Therefore, the category of academic staff who had not gone through training will have challenges in sharing their knowledge and research outputs via their university IRs. Also, it is a no wonder that there are departments that academic staff deposit more research outputs than others when there is a significant number of academic staff who have not been trained on IRs. However, is evident from the

respondents that personal initiatives also took place. For instance, one of the respondents said *"**no trained but have taken initiative to get the knowledge**"*. Therefore, universities are still required through its libraries and IR administrators to continuously train its academic staff on institutional repositories and the benefits that arise form access, use and depositing research output in IRs. This will ultimately increase research output contributed into the IRs.

Where academic staff have not been trained, they had taken the initiative to acquire knowledge on the IRs. According to Tor et al. (2020) conducted a research study on the means of acquiring ICT competencies among academic staff in Benue State, Nigeria. The findings of the study alluded that AS in universities acquired ICT competencies through private training facilitated by friends, family and colleagues; through workshops, seminars and conferences; through internet or online learning and computer assisted instructions (Tor, Idowu, & Soretire, 2020). This shows that academic staff made personal efforts to acquire and develop their ICT competencies on the different ICT platforms. Therefore, the lacking of training on the available ICT platforms such as the IRs inhibit academic staff to generate and share their knowledge and research outputs through institutional repositories.

4.4 University ICT Policy on Knowledge Sharing

The provision of policies in an institution is to guide by providing proposed steps for action to be followed in implementing goals and objectives. Universities have not been left behind in formulating policies that guide the university fraternity. The ICT policy among many policies formulated by universities guide users utilizing ICT platforms that are installed in the university. Knowledge sharing through IRs should be guided by university ICT policy. This study examined the availability of the ICT policy within

universities, if KS has been articulated in the ICT policy and issues that have been addressed in the ICT policy.

4.4.1 Availability of University ICT Policy

A university ICT policy guides users on the available ICT platforms that have been put in place to support teaching, research and consultancy and the regulations of access and utilization of these platforms. The development of knowledge sharing guidelines for staff working in universities and other organizations is imperative. It creates an enabling environment that facilitate the promotion of knowledge sharing (Maiga, 2017).

To assess KS among academic staff through IRs, the researcher found it necessary to examine the availability of the ICT policy in universities because this policy is expected to address the issue of academic staff contribution of research output to their respective university IRs. The respondents indicated if their respective universities had ICT policies in place. This would enable the researcher to determine whether the low contribution was related to policy gaps. The findings were summarized and presented in Table 4.4 below.

Table 4. 4 Availability of University ICT Policy

Availability of University ICT Policy	Frequency	Percent
Yes	34	94.4
No	2	5.6
Total	**36**	**100.0%**

The findings in Table 4.4 above, presents majority (94.4%) of the respondents revealed that their respective universities had an ICT policy. Therefore, this showed that the AS were aware of the existence of their individual university ICT policy. The availability

of ICT policy is to provide a guideline on the ICT platforms and other enterprise resource planning tools used by members of the university fraternity.

This finding on the existence of the university ICT policy, agrees with Chikono (2018), where the researcher conducted a study on sharing of knowledge among members of academic staff of Zimbabwe Open University (ZOU). The study found out that the AS were willing to practice KS. However, the absence of a KS policy has a negative impact on the ability of a university to have a competitive edge as a knowledge driven university or institution (Chikono, 2018).

Gichuhi (2014) studied factors that lead to effective KM in Nairobi and Kiambu counties in selected university libraries. The study assessed the effectiveness of frameworks in organizations to support KM efforts. Organizational framework may include policies, processes, systems and strategic plans that should be put in place to support KM. The study found out that the absence of a KM policy university libraries studied was acknowledged and may have led to lack of coordination in KS (Gichuhi, 2014).

Policies, standards of procedures and guidelines allows the use of organizational resources effectively and provides an assessment measure of its compatibility with organizational objectives. Also, its availability brings out the issues addressed in regards to ICT and knowledge sharing through the ICT platforms.

4.4.2 Knowledge Sharing in the ICT policy

Knowledge sharing process entails communication of knowledge and research outputs through the use of ICT platforms. Academic staffs in universities are key generators and contributors of knowledge and research outputs in a university. They are required to communicate these outputs through the university ICT platforms and most notably

through the institutional repositories established in their universities (Eden & Doctor, 2008).

The researcher further established whether knowledge sharing is discussed in the available university ICT policy with the finding that the universities studied in this research have an ICT policy in place. The availability and discussion of KS in the ICT policy provides guidelines to university staff and more so academic staff, on how to deposit and upload their research outputs to their respective IRs. The results are illustrated in Figure 4.4.

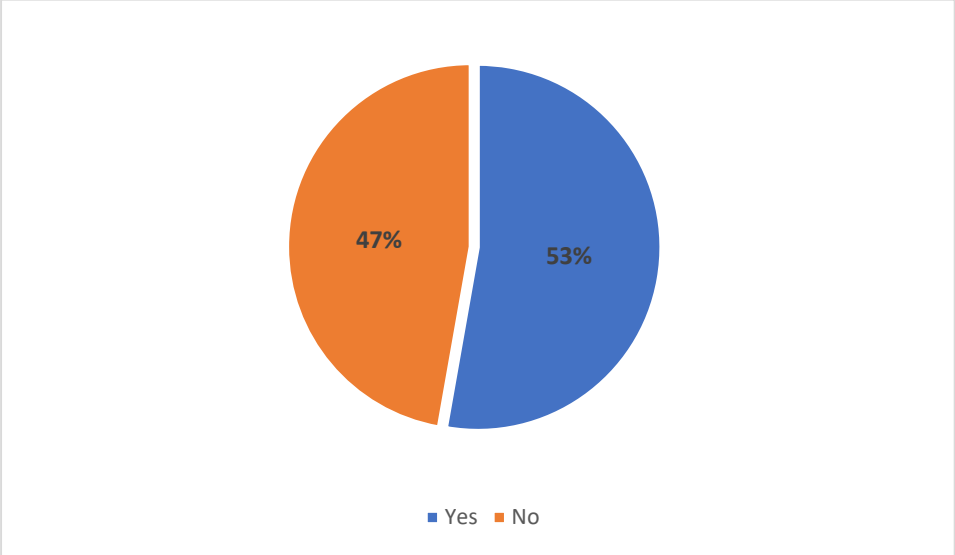


Figure 4.4 Knowledge Sharing discussed in the ICT Policy

Figure 4.4 above indicates that nearly half of the respondents (52.78%) indicated that the university ICT policy articulated knowledge sharing in the policy while another half of the respondents (47.22%) stated that KS is not discussed in the ICT policy. Therefore, where knowledge sharing process is not articulated in the ICT policy, academic staff will not take up knowledge sharing through IRs as a serious undertaking that is backed up by a policy as a requirement. Moreover, this then brings out the

discrepancy where there is low contribution by academic staff in some departments as compared to other departments.

This research finding that indicates that KS is not discussed in the ICT policy agrees with a study conducted on KMPs in universities in Kenya conducted by Gichuhi (2014). The researcher assessed the effectiveness of frameworks in organizations to support KM efforts where organizational framework may include policies, processes, systems and strategic plans that should be put in place to support KM. Policies, standards of procedures and guidelines allows the use of organizational resources effectively and provides an assessment measure of its compatibility with organizational objectives.

Kimile and Bulitia (2020) investigated different strategies and how technology has been integrated for KS amongst academic staffs in selected institutions of HEI in Kenya. The study identified the existence of informal COPs, and the lack of policies were the inhibitors to KS. The study established the integration of information technology in KS was mostly asynchronous (Kimile & Bulitia, 2020). This study collected data from public universities while the current study looked at both public and private universities. Moreover, Anatan (2022) observed that that the policies and strategies of KS in private universities in Indonesia were related to attending workshops or seminars, funding received in support for research conducted and formation of forums around scientific discussion that enable KS activities.

Therefore, with the significant number of academic staffs stating that KS is not discussed in the ICT policy, this finding brings out the need of the university ICT policy to integrate and discuss KS into its policy. The KS practices to be incorporated into the university ICT policy may include but not limited to uploading and sharing of knowledge and research outputs generated by academic staffs into the IRs. Alternatively, universities can establish KS policies that stand on their own.

4.4.3 Issues addressed in the ICT policy

The presence of a policy in an organization is to assist the management and its members to execute its services and mandate. With the existence of an ICT policy in an organization, it should clearly indicate the ICT platforms found in the university which then enables effective and efficient access and utilization of these platforms by its staff. Therefore, it is prudent that the ICT policy out rightly addresses issues around access, usage and contribution to the ICT platforms.

With relevance to this study, the researcher sought to determine the issues addressed concerning KS in the university ICT policy so as to determine whether the low contributions of research outputs by academic staff through IRs could be as a result of non-discussion of issues pertaining knowledge sharing through IRs. The respondents provided the following information as presented in Table 4.5.

Table 4. 4 Issues addressed in the ICT policy KS through IRs

Issues addressed in the ICT Policy on KS through IRs	*Frequency*	*Percent*
No Response	16	44.4
Security of Information	8	22.2
Knowledge Sharing	8	16.7
Copyright and plagiarism	2	5.6
Availability and Accessibility to Information	4	11.1
Total	*36*	*100.0%*

Table 4.5 above presents security of information, knowledge sharing, copyright and plagiarism and availability and accessibility to information were the issues discussed in their respective university ICT policy. These issues were revealed from the respondents' statements. For instance, one of the respondents stated that ***"issues of copyright and plagiarism "***. One of the respondents stated ***"copyright infringement, internet***

addiction, cyberbullying ". Another respondent said ***"security of IRs and the content uploaded"***. Yet another one said ***"availability of information, access to information"***. Finally, one respondent stated ***"password protection for information security "***.

In addition, it was noted that almost half of the respondents 44.4% did not indicate issues addressed which then explains that the AS who were not aware of the existence of the ICT policy in their universities did not know the issues discussed. This finding may explain the low contribution of research output by academic staffs in some departments. With the availability of an ICT policy, it should outline issues in regards to knowledge sharing through ICT platforms such as the IR. Effective organizational policies such as an ICT policy have a positive influence on leveraging human capital which results in organizational and professional competitiveness (Vatamanescu, Andrei, Dumitriu, & Leovaridis, 2016).

4.5 Perception of Academic Staff

The third objective of the research study sought to establish the academic staff's perception on knowledge sharing especially via institutional repositories. Academic staff are regarded as contributors of research and knowledge works to the content of the IRs. The academic staff individual perception greatly influences the contribution of their research outputs which then forms their intention to deposit their research outputs to the IRs or not. This study looked further into what can form an individual's perception by analysing responses to the following research questions; academic staff's level of interaction with different research output in IRs, the importance of KS among academic staff, the research output quality shared via IRs and self-archiving research output in IRs.

4.5.1 Interaction with IRs and the different research output found in IRs

Academic staffs are personnel who render their services to the university community through teaching, research and consultancy. It is from these types of services that they are able to acquire and generate knowledge through interaction with colleagues, students and the management of their universities. The knowledge generated from the interactions can then provide and form insight to their research output and ultimately share through the institutional repositories. The researcher found it important to find out interaction of academic staffs with their university IRs and summarized the results as shown in Table 4.6.

Table 4. 5 Interaction with Institutional Repository

Academic Staff Designation	*Frequency*	*Percent*
Senior Lecturer	4	11.1
Lecturer	14	38.9
Assistant Lecturer	3	8.3
Tutorial Fellow	13	36.1
Graduate Assistant	2	5.6
Total	*36*	*100*

Table 4.6 above presents that all the respondents across the different designations of academic staff have interacted with their respective university IRs. From this finding this represents that forum organized by the universities in creating awareness among the members of its fraternity has greatly bore fruit among the academic staff. The availability of IRs gives the members of a university or an institution the opportunity to interact with them.

Also, the above finding demonstrates an improvement of the number of institutional repositories found in Kenya where the first IR was published in 2011 and currently at

45 with universities leading with 36 IRs (OpenDOAR, 2022). In the quest for higher education institutions (HEIs) such as universities, in providing effective teaching, learning, research and consultancy services the implementation of IRs in HEIs is very important so as to provide quick, accurate, and adequate information (Omeluzor, 2014). With universities investing resources in establishing IRs, the main purpose of institutional repositories such as in business schools in India was to capture, preserve and disseminate intellectual output from staff in academia and research (Eden & Doctor, 2008). Therefore, the success of these IRs also relies on the partnership of universities with its academic staff who are key contributors of knowledge and research outputs (Dutta & Paul, 2014).

With the establishment on interaction of IRs among academic staffs, the contents of the IRs include different knowledge and research output. It is from the interaction with these different outputs, that an AS can form a perception on what type of research output to generate and share which highly leads to contribution to their university IR. Therefore, it was deemed important to establish the different forms of output that the academic staff were aware of and that are found in their respective IRs which would then explain the form that the research output generated and shared by academic staffs throughs IRs. The respondents indicated the different forms of research outputs found in IRs as journal articles, thesis and dissertations, past examination papers and university speeches. The findings are presented and illustrated in Figure 4.5.

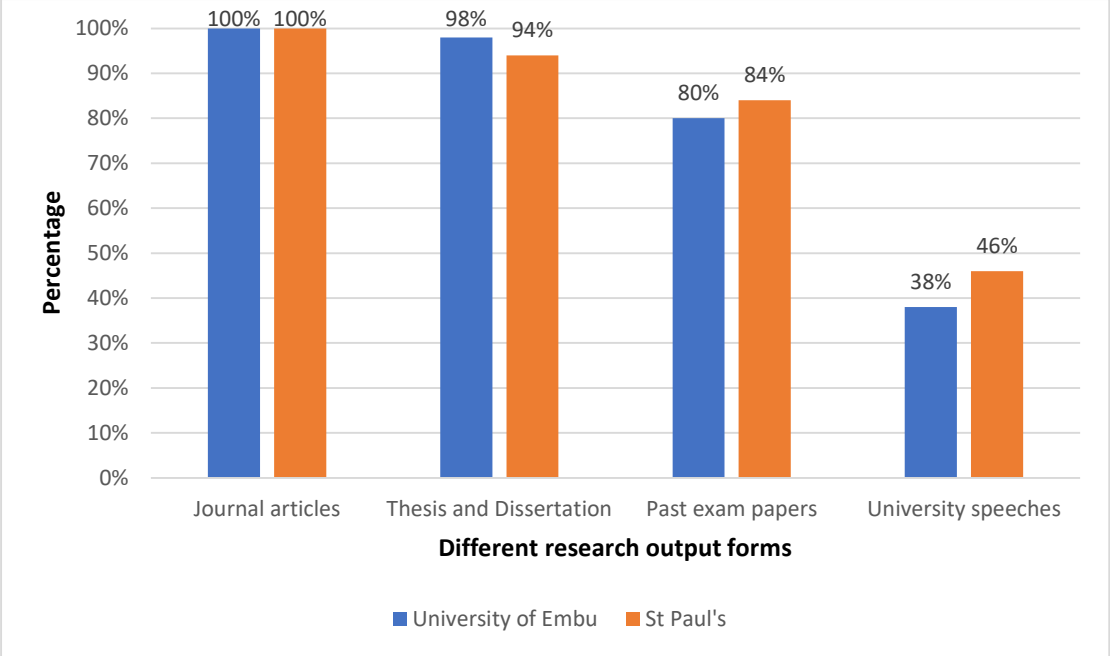


Figure 4 5 Level of Awareness on Different Research Output Found in IRs

Figure 4.5 above presents that all the respondents are aware of journal articles as a form of research output found in the IRs. This is closely followed with thesis and dissertation where majority of the respondents are aware. Thirdly, majority of the respondents have also interacted with past examination papers found in the IRs. Fourthly, two fifths of the respondents indicated to have interacted with university speeches in the IRs which was the least interacted form of research output.

These findings illustrated the different forms of research output that are found in IRs which were categorized into journal articles, past examination papers, thesis and university speeches. Three of the four different research output had a majority to maximum interaction by the academic staff. The different forms that the research works of academic staff deposit to their university IRs agrees with (Eden & Doctor, 2008) where they found out that scholarly publications and instructional materials formed the intellectual capital captured in an IR. IRs bring together intellectual outputs of academic

staff of an institution in the form of research articles, theses and dissertations, conference papers, university journals and other university documents.

Similarly, in a study that sought to investigate AS's awareness on IRs in Tanzanian universities by examining awareness on different aspects of IRs revealed that a significant percentage of AS were more aware of the IR concept, its availability, content and benefits (Kayungi, Sichalwer, & Manda, 2021). This finding agrees with Kayungi et al (2021) on academic staffs being aware of the various content of the IRs. This should translate to knowledge sharing of research output through IRs in the universities.

Knowledge sharing is the process that entails communication of knowledge outputs to a desired audience (Yi, 2009). The knowledge to be shared may take the form of research output, inventions and innovations. Therefore, the process of generating and sharing the knowledge output requires its contributors to have a desired perception of KS. The perception of an individual is formed by the view and expression which then informs the importance of knowledge sharing and eventual knowledge sharing behavior (Abbas, 2017). With this background, the researcher wanted to establish the views of respondents on the importance of knowledge sharing among academic staff as summarized and presented in Figure 4.6.

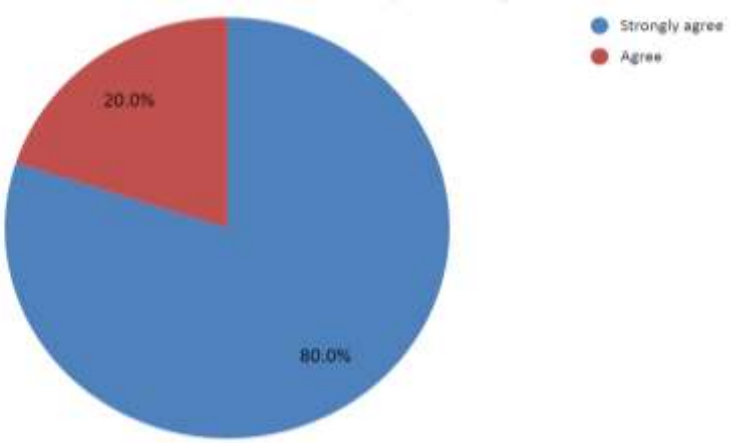


Figure 4 6 Importance of Knowledge Sharing Among Academic Staff

Figure 4.6 above presents that all the respondents agreed that knowledge sharing is important where the majority (80%) strongly agreed and a fifth (20%) agreed. The respondents who were academic staff are aware that is through sharing of research and knowledge outputs that they are able to generate and contribute more knowledge.

This finding agrees with a study conducted on knowledge sharing among AS in universities in Tanzania by (Maiga, 2017), where the respondents indicated that they held knowledge sharing with great importance which highly influenced their positive attitude towards KS. Therefore, the perception of the respondents toward KS is greatly influenced by their regard to importance to KS.

In a similar way, a study was conducted to ascertain whether information sharing was employed to enhance service delivery in libraries, at the Thomas Mofolo Library in Lesotho. Tahleho, and Ngulube (2022) focused on KS in libraries. The study found out that although knowledge sharing in the library was not formalized, it was seen as important for service delivery. This study concludes that knowledge sharing in academic libraries can lead to service improvement and innovation in fulfilling their mission.

Notably, Yeboah (2023), reviewed scattered literature on knowledge sharing. Objectively, the study was to analyze the concept of knowledge sharing and to recommend on future research. The review process included developing a review procedure, carrying out the review, and reporting on the results. The paper found that there is low awareness on the type of knowledge that contributes to competency development. Also, there is a high concentration on KS enablers as compared to barriers (Yeboah, 2023).

4.5.3 Quality of Research Output Found in Institutional Repositories

The research outputs generated by academic staff are required to be shared among the university community through publication in the institutional repository. The quality of information and knowledge shared highly influences the access and utilization of research output deposited in IRs. Therefore, this study sought to find out the views of the respondents on the quality of the research output that they have interacted with on the IRs as presented in Figure 4.7 below.

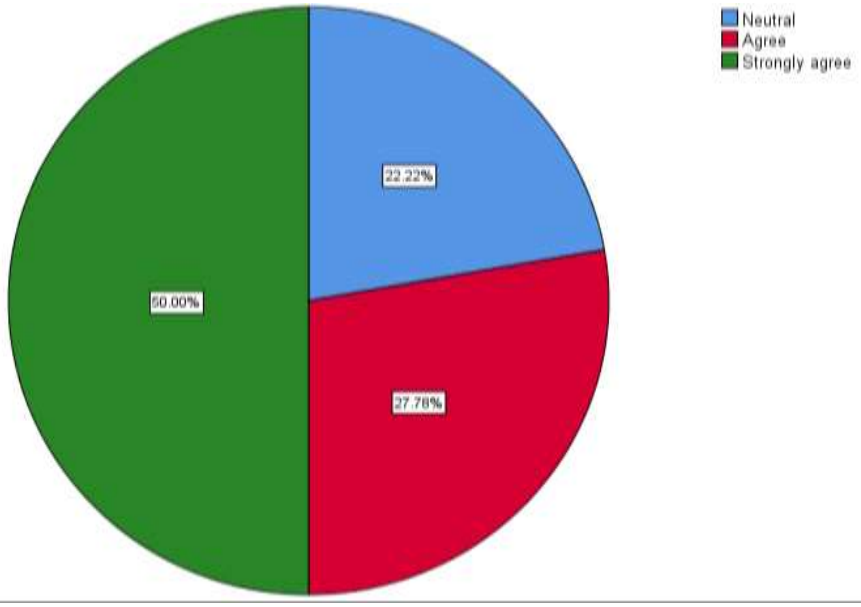


Figure 4.7 Research Output shared via IRs is of Quality

Figure 4.7 above presents that 50% and 27.78% of the respondents strongly agree and agree respectively that the research output shared through IRs are of quality. However, a fifth of the respondents were neutral on their view on quality of research output. With the respondents agreeing that research output exhibited are of quality, which are then utilized for the core business of the universities that is teaching, research and consultancy. This finding agrees with (Eden & Doctor, 2008) where in their study research output in IRs were utilized as resources for instructional and research purposes and thus encouraging KS among academic staff via IRs.

The academic staff indicated that the research output found in IRs are of quality and therefore utilized for generating knowledge and research output in contrast, the study conducted by Mutwiri (2014) revealed that the academic staff who were among the respondents of the study indicated that research output found in IRs were of low quality. Therefore, the finding of this study presents an improvement on the opinion of the academic staff on the quality of research output found in IRs.

Individual views and expression of knowledge sharing form behaviors that can be attributed at an individual level. Knowledge sharing behavior includes an individual's set of behaviors that involves sharing of expertise and experiences related to work with colleagues. This contributes to ultimate effectiveness and efficiency of organizations (Yi, 2009).

4.5.4 Self-archiving Research Output in Institutional Repositories

An institutional repository provides a platform where research output can be shared and disseminated for the purpose of utilization and further generation of knowledge. The different research outputs that can be found in the IRs are such as research articles, instructional materials such as past examination papers, theses by the university fraternity and university speeches. The academic staffs in universities create knowledge in the form of research articles and learning materials such as past examination papers. It is expected that AS will share their knowledge and research output through the university IRs to their targeted users. The AS can share their research output by depositing in the university IRs. It is through depositing of these resources in IRs through self-archiving that the users are able to utilize the resources found in IRs. Therefore, self-archiving is a catapult for sharing of knowledge and research output in IRs. This study found it important to get the response on the self-archiving in IRs by academic staff as presented in Table 4.7.

Table 4.7 Self-archive Research Output in IRs

	Academic Staff Designation					
	Senior Lecturer	Lecturer	Assistant lecturer	Tutorial fellow	Graduate assistant	%
Strongly disagree	0	2	0	0	0	5.6%
Neutral	0	10	0	2	2	38.8%
Agree	2	0	3	6	0	30.6%
Strongly agree	2	2	0	5	0	25.0%
Total	**4**	**14**	**3**	**13**	**2**	**100.0%**

Table 4.7 above presents that more than half of the respondents agreed that they self-archive their research outputs with 30.6% agree and 25.0% strongly agree respectively. A significant two fifths were not confident in self-archiving their research output with 38.8% respectively. Those who were not sure whether they could self-archive were majorly Lecturers. The remaining respondents at 5.6% strongly disagree on self-archiving their research output in IRs.

Similarly, according to Kwame (2024) conducted a study explored the authors self-archiving to create awareness of open access institutional repositories in universities. The researcher sought to establish whether academics knew about the opportunity to self-archive in the open access IRs found in their respective universities. The study revealed that author self-archiving could improve awareness of open access IRs. The study recommended that universities fully implement the author's self-archiving protocol, and the university and university library should provide rigorous policies and incentives for author self-archiving.

4.6 Reward Systems

For organizations to tap into knowledge held by its members, the leadership of these organizations needs to motivate staff to share knowledge by devising strategies and systems. Various studies have shown different relationships and their impact on rewards strategies and systems on knowledge sharing. According to Kumataswamy & Chitale (2012), the researchers observed that for an empowered collaborative KS culture in academic institutions there is need to reward and recognize personnel who share their knowledge. Moreover, by creating awareness on benefits and incentives of sharing knowledge to both the targeted clients and the stakeholders increases knowledge sharing practices and, in this case, academic staff in universities as alluded by (Njiraine, 2019).

This study sought to obtain information on rewards systems used by universities. Therefore, from this objective it raised the question on availability of reward systems for KS in universities, types of rewards available in universities, frequency of awarding the academic staff, the satisfaction level on rewards system for KS among academic staff and suggestions on areas of improvement in regards to application of reward systems.

4.6.1 Provision of rewards to Academic Staff for Knowledge Sharing

For the knowledge sharing culture to be empowered in academic institutions there is need to develop human resource practices that can reward and recognize efforts applied by personnel who share their knowledge. The AS need to be aware of the availability of the established reward systems for KS in universities as raised by (Chikono, 2018). It is with question that this study sought to establish whether AS in the universities both private and public was aware of the established reward systems that are used to empower the staff. The findings were summarized and presented in Table 4.8 below.

Table 4.1 Provision of Rewards to Academic Staff for KS

	University of Embu	*St. Paul's University*	*Total*
Yes	8 (22.2%)	11 (30.6%)	19 (52.8%)
No	11 (30.6%)	4 (11.1%)	15 (41.7%)
Not Aware	2 (5.5%)	0 (0%)	2 (5.5%)
Total	*21 (58.3%)*	*15 (41.7%)*	*36 (100%)*

Table 4.8 above presents half of the respondents indicated that their universities provided reward systems to the academic staff with University of Embu at 22.2% and St Paul's at 30.6% respectively. Also, less than half (41.7%) indicated that their universities did not provide reward systems to academic staff when sharing knowledge. Notably, there were respondents (5.55) who mentioned that they were not aware that their university provided rewards to the academic staff.

This finding agrees with Kumataswamy & Chitale (2012) study, where the researchers observed that for an empowered collaborative KS culture in academic institutions there is need to reward and recognize personnel who share their knowledge. This finding showed that the academic staff in St Paul's university and University of Embu was provided with the reward systems to award academic staff who shared their knowledge and research outputs.

However, there is a significant difference among academic staff with who are aware and those that are not aware of the existence of the reward systems. This finding resonates with a study conducted by Chikono (2018) on KS among academic staff of Zimbabwe Open University. The findings presented that the majority of the respondents expressed that the university lacked a rewards and recognition system that encourages

KS (Chikono, 2018). This then raises the question on perception and awareness of the rewards systems among academic staff. Without the information on the existence of the reward systems this then affects the knowledge sharing culture among academic staff so as to contribute their research outputs towards the IRs.

As noted by Njiraine (2019), although the various HEIs provide support-driven digital infrastructure to allow the academic and research community open and free access to information (digital resources), the uptake and adoption of knowledge sharing practices is not apparent enough to measure up to the initiatives. HEI researchers, lecturers, and academics must embrace information sharing if they hope to be innovative, well-known, and competitive. This study emphasized both the advantages and challenges of information sharing. Based on predetermined objectives, the research employed content analysis as a methodology to analyze print and electronic materials. According to the review, information sharing is essential for innovation, but it hasn't been properly adopted by the target community (Njiraine, 2019). The study suggested a number of ways in which knowledge sharing can be affected in HEIs. The recommendations given included creating awareness on benefits and incentives of sharing knowledge to both the targeted clients and the stakeholders (Njiraine, 2019). In this study the targeted individuals who are to benefit from the incentives are the academic staff in universities.

However, a study that was conducted on public officers in the United Arab Emirates had a differing outcome on provision of reward to individuals who share knowledge conducted by (Dari, Jabeen, & Papastathopolous, 2018). The study reviewed the role of rewards and its relationship towards contribution to KS in public institutions in the UAE. The findings showed that the reward systems used had no significant impact on members contributing to KS that is colleagues in the law enforcement organizations will share and exchange information regardless of any return (Dari et al 2018).. This

therefore differs with the current study on rewards being of importance to contributors of knowledge and research and more so those who share through IRs.

4.6.2 Types of Rewards

With the availability of reward systems applied by universities to award their AS who share their knowledge and research products and the academic staff being aware of the existence of the availability of the reward systems, this study went further to establish the different types of rewards used. Mosoti and Masheka (2010), recommended from their study the application and utilization of both monetary and non-monetary incentives so as to motivate employees to produce knowledge by embedding the rewards systems in an organization's performance measurement and appraisal tool.

The responses on the types of reward systems available in the universities was qualitative in nature. The different types of rewards were revealed from the respondents' statements as follows. Where one of the respondents stated that ***"job promotions and recognition, monetary appreciation "***. Another one said "***fee waivers***". Yet another one stated "***promotion is based on publishing***". One respondent said "***forms part of the promotion policy and implementation hence it is a great incentive***". One more said "***publication of document at no cost***". Finally, one respondent stated "***recognition of meetings, papers shared used in promotion***".

From these findings, promotions, monetary appreciation, fee waivers, publication of documents at no cost and recognition in meetings were the different types of rewards used in awarding academic staff when sharing knowledge and research output. It is evident that the different types of rewards used can be categorized into monetary and non-monetary rewards to their academic staff. These findings agrees with those by Mosoti and Masheka (2010) who noted that there is need to have balanced monetary

and non-monetary rewards to be utilized and applied by organizations for effective performance measurement. Therefore, in doing so this motivates employees to generate and share knowledge and research.

Notably, staff promotions in universities are applied as a form of rewarding academic staff who share their knowledge and research output. In Kenya, the Commission of University Education came up with the University Guidelines 2014 which guides the operations of a university including promotion of academic staff. In its schedule it stipulates the processes to be followed in academic staff promotions. From the above finding, where academic staff are awarded with waiver of publication costs of the knowledge and research outputs, this then encourages KS practices. Therefore, the publication of research by academic staff is utilized to come up with publication points which are then calculated based on the type of research outputs and the position of the author in each of the research output (Commission of University Education, 2014). Once an academic staff is promoted, they get to move to a higher paying grade which has a higher salary this then can be viewed as an indirect monetary reward.

In another study that brought out other types of rewards was conducted on faculty members of Management Institutes in Indore city in India. The study sought to examine the impact that different types of reward systems have on an individual's perception towards KS. The study found out that psychological rewards as well as monetary rewards are a motivator among members of the faculty. Also, verbal rewards demonstrated through positive feedback from colleagues and supervisors was found out to motivate individual faculty to share knowledge (Singh & Ahuja, 2020).

4.6.3 Frequency of awarding rewards

In addition to establishing the types of rewards, the study sought to determine the frequency of rewarding academic staffs who share their knowledge and research output so as to gauge if frequency of awarding rewards could be responsible for the low output in IRs. The result finding is presented in Figure 4.8.

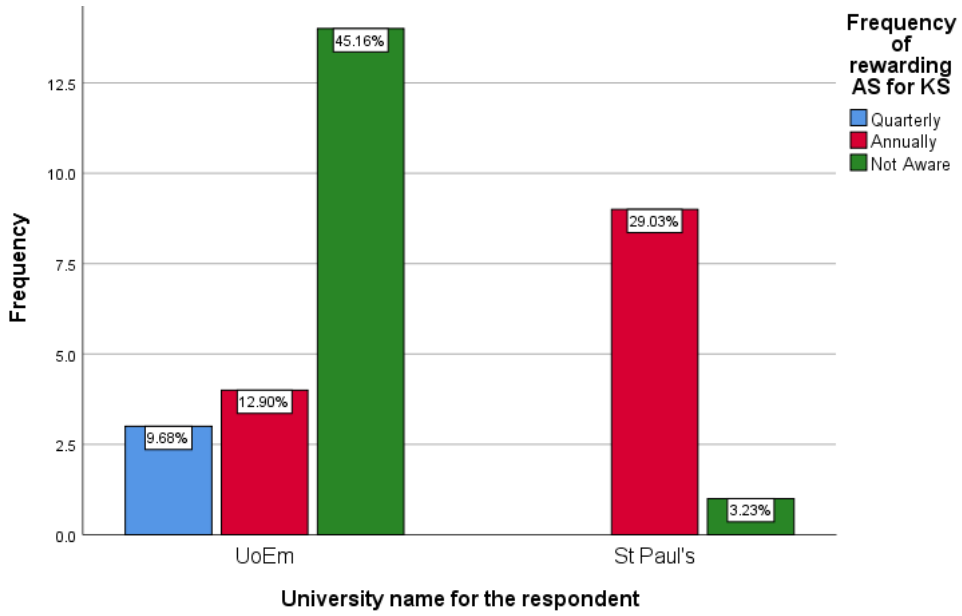


Figure 4.7 Frequency of Rewarding Academic Staff for KS

From Figure 4.8 above, 12.9% of academic staff in University of Embu and 29% of academic staff at St Paul's University noted that rewarding was done annually while 9.68% at University of Embu stated that rewarding is done quarterly. Notably, almost half of academic staff (45.16%) at the University of Embu and 3.23% at St Paul's stated that they were not aware on the frequency of rewarding. Comparing these findings above, it is evident that rewarding of academic staff takes place in the public and private universities studied. However, the percentage of academic staff who are not aware on the frequency of rewarding is high (45.16% and 3.23%) considering that the frequency

of awarding result to knowledge and research output shared by academic staff through institutional repositories.

Kumaraswamy and Chitale (2012) conducted a study in India on how organizational learning can be enhanced through collaborative knowledge sharing strategy. The study proposed to assess ways on how academic institutions can enhance a collaborative knowledge sharing culture especially on education related to Faculty of management, Information Technology (IT) at the University of Pune. The study utilized descriptive and empirical designs for collecting primary data through the use of interviews and questionnaires to the respondents. The findings of the study indicated that for the KS culture to be empowered in academic institutions there is need to develop human resource practices that can reward and recognize efforts applied by personnel who share their knowledge. This therefore, brings out an empowered collaborative KS culture (Kumaraswamy & Chitale, 2012).

Liu and Li (2017), investigated the effects of different types of monetary rewards on knowledge contribution behavior. The researchers mentioned that where an individual contributes or shares knowledge, the knowledge benefits the organization greatly besides the cost incurred by the individual. Therefore, for knowledge contribution to be continuous, organizations should reward or compensate individuals for their contribution. However, various studies have shown both positive and negative relationships between rewards and knowledge contribution. The study utilized an experimental design on 144 undergraduate Chinese students. The finding brought out two types of monetary reward types that are incremental and decremental rewards. The incremental rewards were additional rewards to individuals for obtaining outstanding achievements. Where this type of reward was applied, individuals would increase the quantity of knowledge contributed. On the other hand, decremental rewards were

applied on deducing errors, which increased the quality of knowledge contribution by individuals (Liu & Li, 2017).

4.6.4 Satisfaction level on Rewards System for Knowledge Sharing

The availability of reward systems applied by universities to award their academic staffs who share their knowledge and research products, a further inquiry was conducted on the satisfaction level on rewards system for KS among academic staff and the finding are summarized in Figure 4.9 below.

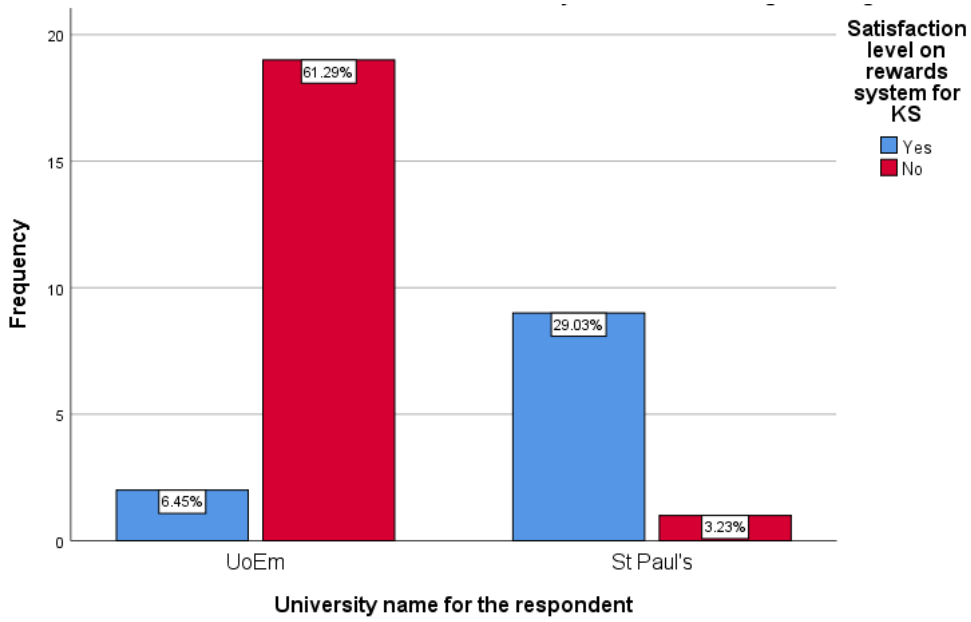


Figure 4 8 Satisfaction level on Rewards System for KS

Figure 4.9 above present majority of the academic staff at St Paul's University (29.03%) and the minority at University of Embu (6.45%) stated they were satisfied with the rewards system in place. The majority (61.29%) at University of Embu were not satisfied with the rewards systems established where similar sentiments were made by a significant number at St Paul's University (3.23%).

From these findings, there is a significant difference on satisfaction level on reward systems for sharing knowledge among AS in public and private universities in Kenya.

It is evident that public universities require to evaluate the rewards system in place so as to improve satisfaction and motivation among academic staff which results to more contribution of research output through IRs. It is a no wonder there is a difference in sharing of knowledge through IRs among AS in different faculties in universities. The low satisfaction levels in the reward systems that are in place can contribute to low generation and sharing of knowledge and research products through IRs. Therefore, with a significant low satisfaction level on rewards system established in universities, there is need for an evaluation of the rewards utilized.

Further, this study sought to have the views of the academic staff on ways in which their respective universities can improve their rewards system as presented in the respondents statements captured as follows. The different measures to take so as to improve the rewards system were revealed from the respondents' statements. For instance, one of the respondents stated that *"**increase frequency of rewards through recognition, provide other forms of rewards such as certificates/medals/badges** "*. Another one said *"**they need to be recognized through rewards**"*. One more said *"**promotion points**"*. Yet another one stated *"**acknowledging members of staff who publish in high impact journal with certificate of recognition and monetary**"*. One respondent said *"**can recognize academic staff who publish on high impact journals on quarterly basis, the journal/publications could also be considered during promotions**"*. One more said *"**certificates for those staff**"*. Finally, one respondent stated *"**the university should consider giving incentives to academic staff who participate in knowledge sharing; this is currently not happening; this can be done annually to motivate such individuals**"*.

From these findings, an inclusion and increase of rewards systems can motivate academic staff to generate and share knowledge and research output through their

universities IRs. This concurs with (Liu & Li, 2017) where they observed that application of incremental rewards that is additional rewards to individuals would increase the quantity of knowledge contributed.

It is evident from the views of the academic staff on measures that can improve existing rewards system brought out two issues that is frequency of awarding academic staff and the types of the rewards to be administered. The frequency of awarding was suggested to annual or on quarterly basis. The different types of rewards mentioned included staff promotion, monetary awards, and issuance of certificates, medals or badges and recognition of staff.

The reward systems being applied in academic institutions can utilize both monetary and non-monetary systems. This will go a long way in motivating academic staff to share knowledge through institutional repositories by improving the research status of their respective universities. This observation concurs with the findings of Mosoti and Mosoti (2010) who recommended the application and utilization so as to motivate employees to produce knowledge by embedding the rewards systems both monetary and non-monetary incentives in an effective performance measurement and appraisal tool.

Lin and Lo (2015) conducted a study in collaboration with a healthcare organization in Taiwan. The purpose of the study was to develop a theoretical model that brings together two mechanisms that can explain sharing of knowledge. The two mechanisms included the Calculative Based Mechanism (CBM) which posits as the traditional monetary rewards (Lin & Lo, 2015). The second mechanism is the Relational Based Mechanism (RBM) which founded on the social networks of an individual where one makes deposits or withdrawal of knowledge during their social interactions in their

networks. The study collected data from 180 respondents who were nurses working in a regional teaching hospital. The study found out that CBM was beneficial to knowledge sharing while RBM played a complementary role in awarding individuals for KS (Lin & Lo, 2015).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter introduces a summary to the findings of this study, conclusions arising from the findings and recommendations. The arrangement is done in accordance to this research study objectives. Also, this study suggests further areas for research studies that arose from the study objectives.

5.2 Summary

The summary of this research findings relates with the research objectives which then highlights the key insights and contribution to the body of knowledge in this field. The study's purpose sought to establish the determinants of knowledge sharing through institutional repositories among AS in selected universities with a view to improve knowledge sharing of research output through IRs equally by academic staff in universities. The academic staffs were selected form St Paul's University and University of Embu so as to represent Private and Public universities found in Kenya. The following objectives guided this study:

1. To determine academic staff ICT skills in knowledge sharing through IRs.
2. To establish university ICT policy articulation on knowledge sharing via IRs.
3. To establish the academic staff perception on sharing of knowledge through IRs.
4. To examine reward systems utilized in awarding academic staff who practice knowledge sharing through IRs.

The following were the findings of the study:

1. Objective one of this research study, sought to determine the ICT skills competence of academic staff in sharing knowledge via IRs. With the provision of information and communication technology in universities this has facilitated dissemination and communication of research outputs generated by academic staff. With the inclusion of these ICT platforms in universities to aid in communication of research output, ICT skills among academic staff are key determinants for effective sharing of knowledge and research outputs. It was necessary to find out the adequacy of the ICT skills of academic staff to aid in knowledge sharing through IRs.

   Firstly, the academic staff were asked to indicate the level they considered their ICT skills. The findings revealed 61.1% of the academic staff rated themselves to have proficient ICT skills while 38.9% of the academic staff considered themselves to have moderate ICT skills. It is clear that the academic staff, who regarded their ICT skills moderate, require ongoing and on-the-job training on the same. This is due to the fact that generation of knowledge and research output require depositing of generated research output in their university IRs relies on an individual's ICT skills.

   Secondly, it was evident that 88.9% of academic staffs have been availed personal computers at their workstations and the personal computers have been connected to the internet while 11.1% were not provided with personal computers at their work stations. The availability and installation of the ICT infrastructure become enablers to academic staff when depositing their knowledge and research output in IRs.

   Thirdly, it was revealed that 83.3% of academic staff have undergone training on institutional repositories with 16.7% have not gone through training. With majority of the academic staff having been trained on IRs, the lack of training on IRs by academic

staff can lead to low or no deposit of research output to be shared through their universities IRs. The study went further to establish the lessons learnt from the training on IRs. These lessons were revealed from the respondents' statements. For example, one of the respondents stated that *"**very useful and interactive** "*. Another respondent said *"**the training was very helpful as I know where I can get open access articles via IR**"*. One more respondent stated *"**was really educative to me and students**"*.

It was evident that the training on IR among academic staff had taken place and they derived lessons that they are applying even in their research and teaching. There were 16.7% of respondents who indicated that they had not gone through training on institutional repositories. However, is evident from the statements of the respondents that personal initiatives also took place. For instance, one of the respondents said *"**no trained but have taken initiative to get the knowledge**"*.

2. The ICT policy among many policies formulated by universities guide users utilizing ICT platforms that are installed in the university. Knowledge sharing through IRs should be guided by university ICT policy. First of all, it was established by 94.4% of the academic staff indicated that their respective universities had an ICT policy. This showed that academic staffs were aware of the availability of the ICT policy in their respective university.

   Secondly, 52.8% of the academic staff stated that knowledge sharing was discussed in the ICT policy while 47.2% stated KS is not discussed in the ICT policy. With knowledge sharing not discussed in the ICT policy, academic staff will not take up knowledge sharing through ICT platforms such as the IRs as a serious undertaking

that is backed up as a policy. Therefore, this is to explain the difference in contribution of knowledge and research outputs shared through IRs.

Thirdly, from the respondents' statements revealed the issues addressed in the ICT policy on KS through IRs. For instance, one of the respondents stated that ***"issues of copyright and plagiarism "***. One of the respondents stated ***"copyright infringement, internet addiction, cyberbullying "***. Another respondent said ***"security of IRs and the content uploaded"***. Yet another one said ***"availability of information, access to information"***. Finally one respondent stated ***"password protection for information security "***.

With the availability of an ICT policy, it should outline the issues addressed in regards to knowledge sharing through ICT platforms. However, with a high percentage of academic staff who are not able to state the issues addressed in the ICT policy, the knowledge sharing process may be undertaken with little guidance on what they have learnt form the policy.

3. Objective three, of this research study sought to establish the perception of AS towards knowledge sharing through institutional repositories. First of all, it was evident that all the academic staffs across the different designation have interacted with their respective university institutional repository. The availability of IRs gives the members of a university or an institution the opportunity to interact with them. Moreover, the findings revealed that different research output found in the IRs and their level of interaction, 100% of the academic staffs have interacted with journal articles found in the IRs, 98% level of interaction with theses, 84% with past examination papers and 46% have interacted with university speeches. These findings

illustrated the different forms of research output that are found in IRs which were categorized into journal articles, past examination papers, thesis and university speeches which are majorly deposited by the academic staff in a university.

Secondly, it was revealed that 100% of the academic staff viewed knowledge sharing as important. With academic staff viewing KS with great importance this highly influences positive perception towards KS which result to generation and contribution of more knowledge.

Thirdly, it was established that 77.8% of academic staff agreed that the research output found in IRs are of quality. This is seen as an improvement where in earlier years the academic staff viewed research output to be of low quality. However, 22.2% of the academic staff had a neutral view on the research output's quality found in IRs. This finding may implicate a low contribution of knowledge and research output shared through IRs.

Lastly, the different research outputs found in an IR are shared by academic staff through self-archiving. It was revealed that 55.6% of the academic staff self-archive their research outputs, 38.8% of academic staff stated they were neutral on self-archiving with 5.6% could not self-archive their research output. This finding that a significant proportion of academic staffs are not aware of self-archiving exercise for their works in the IRs. This indicates that academic staffs members do not participate in archiving their research which results to noticeable difference on low contributions of research output shared through IRs.

4. Objective four sought to obtain information on rewards systems used by universities to recognize and motivate staff to share knowledge. Firstly, it was established by 22.2% of academic staff at University of Embu and 30.6% at St Paul's University indicated that their respective universities have established reward systems in place. 30.6% of academic staff in University of Embu and 11.1% St Paul's university stated their universities did not have reward systems while 5.5% of academic staff in University of Embu indicated they were not aware if their university had a reward system in place. These findings indicate a significant difference among those who are aware and not aware on the existence of reward system established by their respective universities. Without the information on the existence of the reward systems this then affects the motivation among academic staff in contributing research outputs towards the IRs.

   Secondly, academic staff established the different types of rewards used as revealed from their statements. Where, one of the respondents stated that *"**job promotions and recognition, monetary appreciation** "*. Another one said *"**fee waivers**"*. Yet another one stated *"**promotion is based on publishing**"*. One respondent said *"**forms part of the promotion policy and implementation hence it is a great incentive**"*. One more said *"**publication of document at no cost**"*. Finally one respondent stated *"**recognition of meetings, papers shared used in promotion**"*. It is evident that the universities applied and utilized both monetary and non-monetary rewards to their AS. There is need to have balanced monetary and non-monetary rewards to be utilized and applied by organizations for effective performance measurement.

Thirdly, it was revealed that 12.9% of academic staff in University of Embu and 29% of academic staff at St Paul's University noted that rewarding was done annually while 9.68% at University of Embu stated that rewarding is done quarterly. Notably, almost half of AS (45.16%) at the University of Embu and 3.23% at St Paul's stated that they were not aware on the frequency of rewarding. Fourthly, it was evident that 29% of the academic staff at St Paul's University and 6.5% at University of Embu stated they were satisfied with the rewards system in place. However, 61.3% of academic staff at University of Embu were not satisfied with the rewards systems established where similar sentiments were made by 3.2% of academic staff at St Paul's University. From these findings, there is a significant difference on satisfaction level on reward systems for sharing knowledge among AS in private and public universities in Kenya. This research went further to establish ways that the universities could improve their rewards systems. In one instance, a respondent stated that *"**increase frequency of rewards through recognition, provide other forms of rewards such as certificates/medals/badges** "*. Another one said *"**they need to be recognized through rewards**"*. One more said *"**promotion points**"*. Yet another one stated *"**acknowledging members of staff who publish in high impact journal with certificate of recognition and monetary**"*. From these findings, it was revealed that, awarding promotion points, monetary award, awarding certificates to academic staff, and recognition of academic staff were measures that can be used to improve the established rewards systems can motivate academic staff to generate and share knowledge and research output through their universities IRs.

5.2 Conclusions

The following conclusions drawn from this study are based on careful analysis of data collected, interpretation and discussion of findings which was guided by reviewed literature and theoretical and conceptual frameworks. This study has resulted to four conclusions which are stated as follows.

Firstly, based on findings on awareness and level of interaction of AS with IRs and research output's quality found in IRs was adequate, it can be concluded perception on knowledge sharing towards to IRs by academic staff is positive. However, self-archival of research and knowledgeoutput to the IRs by the academic staff requires an improvement.

Secondly, in regards to ICT skills among AS, the study concluded the ICT skills among academic staff was moderate to proficient levels, the issues handled in training on IRs were low on accessing research output in IRs, benefits of IRs and few took personal initiatives on training on IRs.

Thirdly, a significant number of academic staff are not aware if KS is discussed in the ICT policy established in their respective universities and the issues addressed on KS through IRs in the ICT policy. Thus, knowledge sharing through ICT platforms such as the IRs is not taken as a serious undertaking.

Fourthly, there is a significant difference among academic staff who are aware and not aware on the existence of reward system established by their respective universities and monetary rewards with direct or indirect implication are preferred to non-monetary rewards.

5.3 Recommendations

From the above-mentioned summary of findings and conclusion, finally the research study outlines actionable recommendations that universities can adopt to increase knowledge sharing among academic staff through institutional repositories. Also, these recommendations seek to guide future research on the topic and contribute to the comprehensive body of knowledge which will then add value to KM practitioners, the academic community and the policy makers alike.

5.3.1 Recommendations based on Perception of Academic Staff towards KS

This study established that the academic staffs were aware of the existence of the IRs in their respective universities. Also, it was established that the AS members have interacted with the different forms of research and knowledge output found in IRs. Finally, it was found out that the AS viewed knowledge sharing via IRs is important, research output found in IRs is of quality and there are benefits of sharing knowledge via IRs. The challenge included a significant number of AS who are yet to self-archive their research output in IRs which has an impact on low contribution of research and knowledge output shared through IRs.

This study recommends universities to organize and facilitate more training and especially for their academic staff, so as to address the challenge on self-archiving their research and knowledge output in the IRs. the training should cover areas on benefits of university IRs on knowledge sharing and how to self-archive knowledge and research outputs in IRs. The training can be conducted by personnel in-charge of managing the IRs that is university librarians and/or system librarians and institutional repository administrators.

5.3.2 Recommendations based on Establishment of University ICT Policy on Knowledge Sharing

The study established there exists low awareness on knowledge sharing if discussed in the university ICT policy among AS. It is from the low awareness that very few academic staff, indicated the issues addressed in the policy in regards to KS through IRs. This challenge was associated with academic staff not being involved in formulating the ICT policy.

The study recommends that the universities to create awareness through opportunities such as training and workshops so as to discuss knowledge sharing and its aspects especially in the ICT policy among AS members. The study further recommends to universities to engage and involve academic staff members in formulating the university policies such as the ICT policy so as to include their voices on knowledge sharing which is conducted in teaching, research and consultancy. With the inclusion of academic staff on policy formulation that then will increase awareness and implementation of the ICT policy with knowledge sharing via IRs component.

5.3.3 Recommendations based on Rewards System

This study found out a significant number of academic staff indicated that there was no rewards system established or were unaware of the rewards system that existence in their universities. Also, it was established, few of the academic staff stated the frequency of awarding with a number stating it is applied on an annual basis. This then challenged the satisfaction level of rewards system which was established to be low.

The study recommends universities to create awareness on rewards system established to award members of academic staff that share knowledge and research output through

IRs. Also, it is recommended details on types of rewards and frequency of awarding to be stipulated in staff performance appraisal tools. Finally, the study recommends universities to frequently evaluate the rewards system through assessments such as surveys so as to take up recommendations given to improve the established rewards system that have been invested on.

5.3.4 Further research recommendations

This research was conducted to establish the determinants of KS especially among AS through IRs in selected universities. The researcher recommends further research on the following areas:

1. Knowledge sharing among postgraduate students through institutional repositories. This was deemed important due to the research writing exercise undertaken by postgraduate students together with their supervisors that is academic staff.
2. Information literacy training on self-archiving of research and knowledge outputs in institutional repositories. It is necessary that a research study is conducted to determine what would cause the shift of academic staff to self-archive their research output in IRs.
3. Effectiveness of university ICT policy on knowledge sharing through IRs among academic staff. This is recommended based on the issues that address knowledge sharing through IRs in the ICT policy and the low involvement of academic staff in formulating and establishing the university ICT policy.
4. Impact of ICT training on open access institutional repositories among university IRs managers and administrators. This is recommended based on the administration of IRs by either a systems librarian or an ICT staff.

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APPENDIX I: LETTER OF INTRODUCTION TO ACADEMIC STAFF

KENYATTA UNIVERSITY
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P.O. Box 43844, 00100
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Our Ref: E108/OL/CTY/32932/2016

DATE: 2nd November, 2021

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

SUBJECT: RESEARCH AUTHORIZATION FOR LYNETTE WAMBUI NJOGU – REG. NO. E108/OL/CTY/32932/2016

I write to introduce Ms Lynette Wambui Njogu who is a Postgraduate Student of this University. She is registered for M.LIS degree programme in the **Department of Library and Information Science.**

Ms Njogu intends to conduct research for a M.LIS Project Proposal entitled, **"Determinants of Knowledge Sharing Through Institutional Repositories among Academic Staff in Selected Universities in Kenya".**

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
DEAN, GRADUATE SCHOOL

KENYATTA UNIVERSITY,

DEPARTMENT OF COMPUTING &
INFORMATION SCIENCE,

P.O. BOX 43844-00100,

NAIROBI.

Dear Sir/Madam,

REF: REQUEST FOR PARTICIPATION

My name is Lynette Wambui Njogu, a Masters student in the Department of Library and Information Science, Kenyatta University. I am conducting a research study on *Determinants of Knowledge Sharing through Institutional Repositories among Academic Staff in selected Universities in Kenya.*

The purpose of this letter is to request you to complete the questionnaire attached so as to obtain data in regards to the research study topic under investigation. The findings that will be obtained will help in making recommendations on what can be done in regards to sharing knowledge among academic staff. The information that you will provide will be solely used for research purpose and will be held in confidence.

Thank you for your support.

With regards,

Lynette Wambui Njogu

APPENDIX II: QUESTIONNAIRE

SECTION A: Demographic Data

1. Kindly indicate the name of your institution below.

_____

2. What is your rank in the University?

Professor	☐	Assistant lecture	☐
Associate professor	☐	Tutorial fellow	☐
Senior lecturer	☐	Graduate assistant	☐
Lecturer	☐		

3. How long have you worked at the institution?

<3 years	☐	7-11 years	☐
3-7 years	☐	Over 11 years	☐

SECTION B: Academic staff ICT skills

4. a) Do you have any training in computer competency skills?

Yes ☐ No ☐

b) If Yes, at what level is your computer competency skills at?

Basic ☐ Moderate ☐ Proficient ☐

5. Do you have a personal computer at your work place?

Yes ☐ No ☐

b) If Yes, is it connected to the internet?

☐ ☐

Yes No

6. Have you been trained on how to access the IR and depositing research on the IR?

Yes ☐ No ☐

b) How useful was the training?

_____

_____

SECTION C: University ICT Policy

7. Does your university have an ICT policy?

Yes ☐ No ☐

b) If Yes, is Knowledge Sharing, discussed in the ICT policy?

Yes ☐ No ☐

8. What are the issues addressed in the policy in regards to KS through IR?

_____

_____

9. Are academic staff involved in formulating the ICT policy?

Yes ☐ No ☐

SECTION D: Perception towards Knowledge Sharing using IRs

10. Have you interacted with an institutional repository (IR)?

☐ ☐

11. Tick the different research output that you are aware they are found in IRs

Journal articles ☐

Thesis and dissertation ☐

Past examination paper ☐

University speeches ☐

12. Are you aware you can share knowledge via institutional repositories in your university?

Yes ☐ No ☐

13. Are you willing to share knowledge via IRs?

Yes ☐ No ☐

14. In regards to your perception on KS through institutional repositories indicate 1-5 where 1- Strongly disagree, 2 – Disagree, 3 – Neutral, 4 – Agree and 5 – Strongly agree.

	1	2	3	4	5
Knowledge sharing for collaborative research is important.					
Research output shared through institutional repositories is of quality.					
I prefer to self-archive my research output in IRs.					
There are benefits of sharing knowledge for collaborative research.					

SECTION E: Reward Systems

15. Does your university provide incentives when academic staff participate in knowledge sharing?

Yes ☐ No ☐

16. Kindly list the types of rewards or incentives provided by your university.

_____

_____

17. How often does your university reward academic staff who participate in knowledge sharing?

Monthly ☐ Quarterly ☐ Semi-annually ☐ Annually ☐

18. Are you satisfied with the university reward system?

Yes ☐ No ☐

b) If No, what are the measures your university may use to improve on rewarding academic staffs who share knowledge through IR?

_____

_____

Thank you.

APPENDIX III: RESEARCH PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **855107**

Date of Issue: **15/November/2021**

RESEARCH LICENSE

This is to Certify that Ms.. Lyniette Njogu of Kenyatta University, has been licensed to conduct research in Embu, Kiambu, Nairobi on the topic: DETERMINANTS OF KNOWLEDGE SHARING THROUGH INSTITUTIONAL REPOSITORIES AMONG ACADEMIC STAFF IN SELECTED UNIVERSITIES IN KENYA for the period ending : 15/November/2022.

License No: **NACOSTI/P/21/14238**

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