THE ROLE OF DIGITIZATION IN THE PRESERVATION OF CORPORATE ARCHIVES AT KENYA POWER AND LIGHTING COMPANY

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August, 2019

DECLARATION

I declare that this thesis is my original work and has not been presented in any other university.

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DEDICATION

This work is dedicated to my dad, mum, my siblings, my wife Judith and daughter Shanice for the understanding and support during the period of study. I hope and trust it will remain an inspiration to them.

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ABSTRACT

Records in digital format are becoming more influential in governance and operations of both corporate and government as many organizations embark on electronic commerce (e)-strategies. The use of information and telecommunications technologies (ICTs) in preservation at KPLC has resulted in the creation and use of digital records. This strategy is believed to increase the efficiency of the internal processes such as those supporting financial and human resources management. Because of the speed of technological change, organizations have to consider issues of preservation of their digital archives even while they are still in active use and needed for posterity. Digital records being preserved by the organization must be accurate and complete to ensure transparency and accountability. Records in whatever form need to be captured, managed and safeguarded in an organized system in order to retain their value as formal corporate records. The aim of the study was to investigate the role of digitization in the preservation of corporate archives at Kenya Power and Lighting Company (KPLC). The specific objectives of this study were to; determine the accessibility of the digitally preserved archives at KPLC, find out the policies relating to digital preservation of archives at KPLC, analyze security threats related to digital preservation of archives at KPLC and to explore the challenges of digital preservation of archives at KPLC. The theoretical framework focused on Open Archival Information System. The research adopted a descriptive research design. A mixed method approach was used to incorporate both qualitative and quantitative research methodologies which gave a better understanding of the research problem. The target population comprised of 74 participants. The study employed census sampling technique. Semi structured questionnaire were used as the main data collection instrument and analyzed using Statistical Package for Social Sciences (SPSS 23). Pilot study was administered to test the success of the study over the prevailing circumstance. Pearson correlation and linear regression was used to test the relationship between variables in the study hypothesis. Analyzed data was presented descriptively using tables, graphs and pie charts. The results of the study indicated that KPLC is open to preservation digital records hence embracing the various formats for preservation. The study found out that KPLC appreciate records as key drivers in various business activities hence the diverse access provision. KPLC provided three kind of access to digital archive services which included full access, partial access and no access were allowed on some of digital records. The findings established that KPLC had policies related to Digital Records Management (DRM). Among the policies set up by KPLC to regulate the preservation of digital archives included; authorization, staff development, application of latest technology in preservation of information and regulatory compliance policy. Also, the study revealed that KPLC had proper procedures and mechanism in place to ensure security, long term preservation and accessibility of digital records. Technical measures to prevent unauthorized access included: data and database security, procedural security, system security and data back-up. Finally, the challenges surrounding digital preservation of archives included inadequate funding, obsolete hardware and software, insufficient ICT facilities, fragile storage media, inadequate expertise and shortage of DRM Skills. The study recommended that; KPLC should adopt new communication technologies (face book, twitter and blogs), undertake capacity building by developing a detailed training plan and finally KPLC should have a detailed budget process since adoption of ICTs requires huge capital for purchase of computers, software and training of staff.

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ABBREVIATIONS AND ACRONYMS

DRM – Digital Record Management

ERPANET – Electronic Resource Preservation and Access Network

IPR – Intellectual Property Rights

IRMT – International Record Management Trust

KNADS – Kenya National Archives and Documentation Services

KPLC - Kenya Power and Lighting Company

OAIS – Open Archival Information System

OCLC – Online Computer Library Center

OTP – Office of the Premier

PDF – Portable Document Format

RM – Records Management

SPSS - Statistical Package for Social Sciences

TIFF – Tagged File Format Image

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter presents the introduction and background to the study. The study examined the role of digitization in the preservation of corporate archives at Kenya Power and Lighting Company (KPLC). The study examined how Kenya Power and Lighting Company determine the accessibility of the digitally preserved archives, policies, security threats and technological challenges of digital preservation. The chapter further outlines the background information on digital records management, digitization, digital preservation and corporate archives. The chapter also presents an overview of the KPLC, statement of the problem, aim of the study, objectives of the study, research questions, justification of the study, significance of the study, limitations of the study and definitions of terms.

Digital preservation helps KPLC to track the execution of its mandate, ability to display, retrieve and use of digital collections and provide substantial evidence of what was done or not done and justify for the same. The KPLC is a national electric utility organization dealing with , managing electric metering, issuing license, invoicing, emergency electricity services and customer relations. Therefore digitization and preservation of corporate archives at Kenya Power and Lighting Company is likely to enhance service delivery.

1.1 Background of the study

Digital records are becoming more influential in organizations operation as many businesses embark on e-commerce strategies (Lichpack & McDonald, 2003). E-commerce refers to the integration of computers and telecommunication facilities for the purpose of communication and information exchange to enable the organization to deliver services more effectively and efficiently (Heeks, 2002). The use of information and telecommunications technologies (ICTs) in preservation at Kenya Power and Lighting Company (KPLC) has resulted in the creation and use of digital records. This strategy is believed to increase the efficiency of the internal processes such as those supporting financial and human resources management.

Because of the speed of technological change, organizations have to consider issues of preservation of their digital archives even while they are still in active use and needed for posterity. Digital records being preserved by the organization must be accurate and complete to ensure transparency and accountability. Records in whatever form need to be captured, managed and safeguarded in an organized system in order to retain their value as formal corporate records (Harris, 2001).

1.1.1 Digital Records Management (DRM)

Digital records management developed from the 20th century onwards. Shepherd and Yeo (2003) point out that until recently, almost all records were on paper but due to developments many organizations are increasingly using ICTs to create, receive, and manage their records.

Organizations are preserving an ever-increasing number of digital records generated through media such as computers, tape and digital video disks (DVD) recorders in different formats

(Ngoepe, 2008). This applies records are either born-digital items or hard copy materials that are converted into digital copies. For this reason, digitization is not strictly a preservation activity, as the new files will require preservation as well (Conway, 2010). Thus the rate at which digital records are created both by conversion or born-digital poses management threats to organizations. Digitization is the process of changing written and printed records into electronic format. The substance may be text, image, audio or amalgamation of these (multimedia) (Conway, 2010). Murthy (2005) noted that there are basically three major phases of digitization activities;

The main activities involved in the first stages relate to the putting together for digitization and the actual process of conversion of materials. The second stage is concerned with the processing required to a number of editorial and processing activities such as cataloguing, indexing and compression. End-users can utilize the digitized materials when satisfactorily processed. The third stage relates to the preservation and maintenance of the digitized collection and services (Chowdhury & Chowdhury, 2003). The process of digitization equally involves enormous cost. In addition to paying for equipment and the digitization process, there are many other type of costs such as staff salaries and those associated with various related activities before and after digitization such as movement of physical items, copyright clearance, creation of records and indexes and so on.

Digital preservation is a terminology used to describe both the maintenance and the safe guarding of a digital resource into the foreseeable and the distant future. Digital preservation is the action required to sustain access to digital materials beyond media/technological obsolescence (Ronald & Michael, 2005). Hedstrom (2006) defined preservation as the process of

designing, resource allocation, application of preservation strategies and technologies necessary to ensure that digital information remains accessible and usable. On the same note, Ronald and Michael (2005) are of the view that digital preservation is emerging as a trustworthy process, yet there is much on-going debate concerning the viability and even the meaning of this process. Given the nature of electronic storage technologies and the short-lived nature of web pages, many are doubtful that digital preservation will ever become a reality.

For state departments and corporate organizations to be able to retrieve information quickly they need to have proper digital records management systems in place (Milner, 2002). In order to ensure archives authenticity, reliability and accessibility over time, organizations need to take into consideration issues of preservation at the time of creation. This means addressing the issue of preservation at the planning stage of program or system design even before the records is created (Tafor, 2003).

Records created or maintained digitally are often referred to as digital records. Parrish & Courtney (2007) define digital records as a combination of text, data, graphics, images or audio information that is created, maintained, modified or transmitted in digital form by ICTs.

According to Shepherd and Yeo (2003), digital records include all components of an electronic information system namely: electronic media as well as all related items such as input documents, printouts and metadata. The anxiety by organization to adopt digital records management systems (EDRMS) does, however face limitations especially financial matters. In most cases, funding affects both information manager and the user because of the inadequate ICTs facilities to access the services maintained in digital format. This impacts the relationship between the organization and the users of its services. Ngulube (2007) noted that government

information especially in the Sub Saharan Africa (SSA) is not properly organized as records management systems in many countries lack the necessary equipment, infrastructure and trained records managers hence they are collapsing. According to Ngulube (2004) the advent of ICTs has brought about a paradigm shift in the production of government information. The transition from paper based records to digital records is happening at a time when many records managers in SSA do not have the necessary skills to deal with digital records. In KPLC although the management of digital records has not been effectively controlled, the organization policy makes provision for the management and access of digital records. The available policies related to DRM provide the legislative and legal framework according to which digital records management practices in organization is regulated.

1.1.2 Kenya Power and Lighting Company

Kenya Power and Lighting Company have a history dated back to 1875 when Seyyied Barghash the Sultan of Zanzibar procured a generator to illuminate his palace and nearby streets. The generator was acquired in 1908 by a Mombasa based businessman Harrali Esmailjee Jeevanjee leading to the formation of the Mombasa Electric Power and Lighting Company (MEPLC) which was mandated to provide electricity to the island. In 1908, Engineer Clement Hertzel was given the right to supply electricity in Nairobi city thus leading to the formation of the Nairobi Power and Lighting Syndicate.

In the year 1922, the Mombasa Electric Power and Lighting Company (MEPLC) and Nairobi Power and Lighting (NP&L) group merged under a new company called East African Power and Lighting Company (EAP&L). The swift expansion of EAP&L in 1932 led to broadening of

market outside Kenya when it secured a controlling interest in the Tanganyika Electricity Supply Company Limited (now TANESCO) and later acquired a generating and distribution licenses for Uganda in 1936 thereby establishing its presence in the East African region. In 1948, Uganda Electricity Board (UEB) was inaugurated to run the administration of electricity in the country therefore EAP&L exited the country.

Kenya Power Company (KPC) was formed in February 1954, with the aim of building the conveyance line between Nairobi and Tororo in Uganda that will transmit generated power at the Owen Falls Dam to Kenya.

In the year 1997, Kenya Power Company demerged from Kenya Power and Lighting Company (KPLC) and rebranded to Kenya Electricity Generating Company (KenGen). In 2008, the core function of KPLC, the electricity transmission infrastructure function was delinked out and taken to the Kenya Electricity Transmission Company (KETRACO). Kenya Power and Lighting Company (KPLC) rebranded itself to Kenya Power and Lighting Company in June 2011. Kenya Power and Lighting Company (KPLC) is a limited company which majorly deals with transmitting, connecting and merchandising electricity to consumers throughout Kenya. The company is a national electric utility organization, controlling electric metering, licensing, invoicing, emergency electricity service and customer relations (KPLC, 2012).

KPLC SECRETARY DIVISION ORGANOGRAM

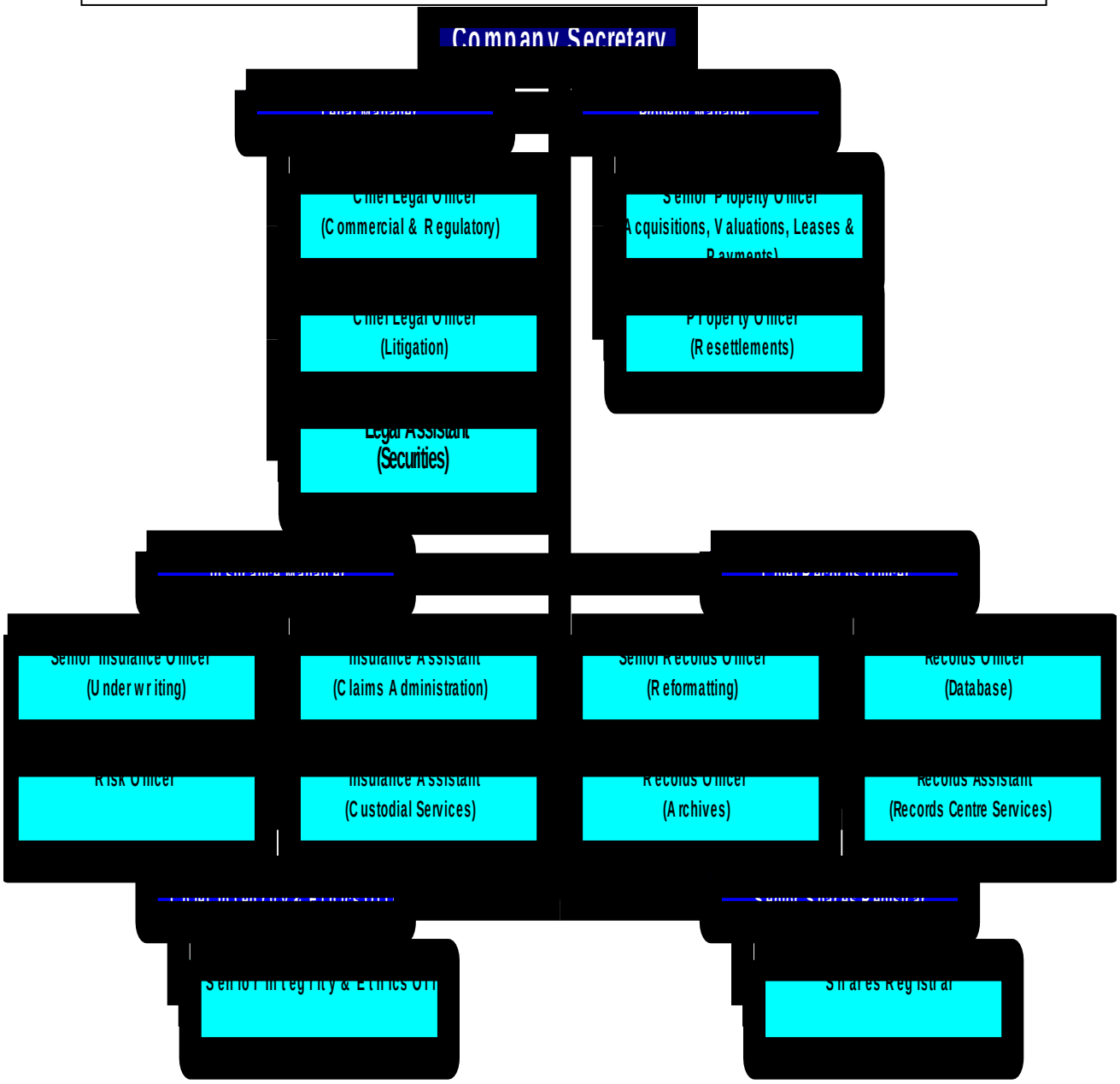

Figure 1.1 Company Secretary Organogram, (Source: KPLC (2014).

The KPLC is mandated to plan for sufficient electricity generation and transmission capacity to meet demand, maintaining the power distribution, transmission network and merchandising of

electricity to its consumers. The company is headed by the Chief Executive Officer, with distinctly five major divisions namely: Internal Audit Division; Human Resource & Administration; Supply Chain; Information and Communication Technology and Company Secretary, Legal & Corporate Affairs. The Records and Archives department falls under the Company Secretary, Legal & Corporate Affairs with the key portfolio of Senior Records Officer (Reformatting) under the Chief Records Officer is located where digitization takes place.

1.1.2.1 Mission and Vision

The mission statement of Kenya Power and Lighting Company is powering people for better lives while the vision statement is to provide world-class power that charms the customers.

1.1.2.2 Core Values

The company's core values are as follows:

Customer First-The company wants their customers to be pleased with products and services as well as getting delighted. All the company staff members strive to ensure that the institutional archive provides a positive customer experience by combining advanced records management tools with first class customer service.

Passion-The Company's staff members strive to make a difference for millions of people who are the electricity consumers every year through the monumental responsibility of reducing misfiling, backlogs and loss of file.

Integrity-The Company proudly upholds the values of honesty, truthfulness and sincerity while remaining fair and ethical in even the most difficult situations by ensuring that information

governance program is constructed so that the records and information generated or managed by or for the organization have a reasonable and suitable guarantee of authenticity and reliability.

Excellence-The Company competes to establish and maintain market position in the industry by ensuring that policies and clear procedures are developed and adhered to in management of records and archives within the company.

1.1.2.3 Quality Policy of KPLC

Kenya Power and Lighting Company is dedicated to dispense high quality customer service by efficiently conveying and administering high quality electricity that is safe, adequate and reliable at cost effective tariffs. The Kenya Power and Lighting Company fraternity (board, management and staff) are committed to execution and administration of the Quality Management System that complies with the ISO 9001:2008 requirements in order to invariably meet the customers and other stakeholder's expectations through dependable, accurate and timely information to manage services and account for performance.

The company's records should be managed well since it provides evidence of business that are necessary to administer public functions effectively and provide accountability for decisions taken. The business interest of KPLC lies in the ability to locate, retrieve information speedily and economically in response to delivering services and responding to information requests. Therefore, preservation and reformatting section falls under the company's secretary division which its key mandate is to apply new technologies to ensure continued access to the collections.

1.2 Statement of the Problem

For archivists dealing with corporate archives, their permanent accessibility of information is of utmost concern. Digital media is temporary and digital files must be maintained, backed up, refreshed and migrated on a regular ongoing basis to remain accessible with current hardware and software (Gertz, 2005).

Neglect of accessibility of digital archives at Kenya Power and Lighting Company despite wide exposure of risk such as changing format and obsolescence of technology is of major concern. There is no comprehensive preservation policy to guide the function of digital records management in KPLC. In addition, KPLC's strategic objectives do not mention anything to do with digital records or even information management. However, integration of digital preservation policies with business drivers, activities and functions is still missing. Additionally, Information security poses a serious challenge in the preservation of archives at Kenya Power and Lighting Company due to inadequate physical and electronic security strategy that is required for advocacy of information security to ensure long term preservation. Technological issues such as capacity for digital archives as well as obsolescence pose greatest challenges. Inability to access and read the digital archives will drastically affect the performance of Kenya Power and Lighting Company leading to uninformed decision making, non-adherence to service charter thus impoverished service delivery to the customers.

Owing to the above, this study set out to establish the role of digitization in the preservation of corporate archives at KPLC. The problem of weak digital preservation strategy at Kenya Power and Lighting Company therefore presents a potential research area that needs intensive and

extensive investigations. This is necessary to establish the role of digitization in preservation of corporate archives and subsequently submit appropriate recommendations to improve the situation at KPLC.

1.3 Aim of the Study

The aim of the study was to investigate the role of digitization in the preservation of corporate archives at KPLC in order to recommend practical strategies that can be adopted to curb current and future digital preservation issues.

1.4 Specific Objectives of the Study

The specific objectives of this study were to:

i). Determine the accessibility of the digitally preserved archives at Kenya Power Limited.

ii). Find out the policies relating to digital preservation of archives at Kenya Power Limited.

iii). Analyze security threats related to digital preservation of archives at Kenya Power Limited.

iv). Explore the challenges of digital preservation of archives at Kenya Power Limited.

1.5 Research Questions

The following constituted the research questions for the study:

i). Are there any structural procedures for accessing digital archives at Kenya Power and Lighting Company?

ii). Which digital preservation policies form part of the organization's regulatory structure at Kenya Power and Lighting Company?

iii). Does Kenya Power and Lighting Company have security measures in place for preservation of digital archives?

iv). What are the challenges hindering the digital preservation of archives at Kenya Power and Lighting Company?

1.6 Assumptions of the Study

The study was based on the following assumptions; First, Public perception that a combination of enabling technologies and security measures needed to ensure that digitally preserved archives remain accessible and trustworthy are not in place. Additionally, basic procedures for digital preservation of archives had not been developed and implemented and there had been little planning for continued accessibility in the changing ICT environment. Finally, there tends to be an absence of organizational information policies, and where policies exist, they tend to relate to paper records.

1.7 Significance of the Study

The study is deemed to be significant to the Kenya Power and Lighting Company because it will be used to build an argument that the research is important for theoretical perspectives concerning the preservation of digital archives.

The knowledge generated from this study will be helpful in providing direction in terms of factors needed to improve digital preservation of archives. It is also hoped that the study will serve as a catalyst in the modification and formulation of digital preservation policies in the both private and public organizations in Kenya.

Based on the findings of the study, the recommendations are likely to lead to the improvement of digital preservation practices, act as an eye opener to the organization for formulation of policies and security measures to safeguard digital archives in the organization and in other organizations that may face similar problems.

1.8 Scope and Limitations of the Study

Bak (2004), states that all research projects need to have a starting and end point. This means that one sets distinct boundaries to orient readers and make the study manageable. A research needs to demonstrate that one had been able to demarcate or delimit the study.

The scope of the study was limited to an investigation of the role of digitization in the preservation of corporate archives at Kenya Power and Lighting Company, Electricity House, Nairobi where the study concentrated on staff from two divisions namely; Information communication technology and company secretary division which are related to the Archives department. The period of the study was between the months of January 2016 to July 2018.

Finally, the content scope was limited to literature of between the years 2000 to date in the study area because insufficient studies have been done on digital preservation of archives in Kenya. It

is anticipated that the findings of the study will be applicable to the development of digital preservation practices.

1.9 Definitions of terms

Archives: Archives are records not necessarily noncurrent records of durable value selected for permanent preservation (IRMT, 1999).

Corporate archives: Corporate archives are archival departments within a company or corporation that manage and preserve the records of that business (Bakken, 1982).

Digital preservation: Digital preservation refers series of managed activities required to maintain access to digital materials beyond the limits of media failure or technological change (Ronald & Michael, 2005).

Digital record: is an electronic record created, housed or transmitted by electronic rather than physical means and which satisfies the definition of a record. A record can consist of one or more objects, e.g. web page, file, e-mail or document (Smith 2007).

Digitization: Digitization is mainly the process of changing written and printed records into electronic format (Witten & David, 2003).

Preservation: Preservation is the process of designing, resource allocation, application of preservation strategies and technologies necessary to ensure that digital information remains accessible and usable (Hedstrom, 2006).

Record: Record is any recorded information regardless of physical form, characteristics or medium created during the course of an activity (Kemoni, 2008).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the existing literature on digitization and preservation of archives. It covers theoretical framework, empirical literature review and conceptual framework. Literature review is a report of what has been produced by certified scholars and researchers (Dellinger, 2005; Dellinger, & Leech, 2007; Kothari, 2004; Mugenda & Mugenda, 2004). According to Taylor (2008), the main objective of literature review is to relay to the reader what knowledge or ideas have been entrenched on a topic and what their merits and demerits are.

2.2 Theoretical Framework

This section provides a discourse of theories, models and concepts that are used in this study. However, the term model is often used instead of or interchangeably with theory of particular relevance and significance to this study is the Open Archival Information System (OAIS) model. The theoretical framework assists in identifying the variables that are being investigated and provide a frame for analyzing and interpreting the findings.

2.2.1 Open Archival Information System Model

The central concept in the OAIS reference model is that of an open archival information system. The reference model does not make any inference about the level of accessibility associated with an archive. An archival information system is an organization is part of the larger organization of

people and systems that have accepted the task to preserve information and make it available to the designated community (Open Archival Information System {OAIS}, 2012). OAIS-type archival repository has two major functions namely: first, to preserve information by securing its long-term persistence and secondly, to provide access to the archived information based on needs of the users.

OAIS-type archival repository has mandatory responsibilities such as: firstly, is to select criteria to use in determining materials to be included in the repository. The scope of archival collection is based on the factors such as subject, origin or format to motivate the producer of the targeted items to transfer them along with accompanying metadata into the custody of the OAIS for preservation.

Secondly, OAIS reference model needs to obtain intellectual property rights to authorize the procedures necessary to meet preservation targets such as if the model must create a new version of the archived materials so that it can be rendered by current technologies, it must have the explicit right to do so. Also, the model noted three areas of weakness that may occur in obtaining need levels of control of archived materials such as: copyright/legal restrictions; modification of archived materials with authority and agreements with other organizations to share or leverage their preservation activities.

Thirdly, determination of the scope of the user community. Importantly to note is that OAIS type model should establish and document clear policies and procedures for carrying out the preservation of the information in its custody; these should be accessible to and understandable by user community in the OAIS alongside conforming to the defined preservation objectives.

Finally, OAIS type should be committed to making the contents of its archival store available to its intended user community through the implementation of access mechanisms and services which support to the fullest extent possible users' needs and requirements such as medium (e.g., print-on-demand, file formats) and access channels (e.g., Web access, transfer of physical media). Access restrictions attached to some or all of the archive's contents should be clearly documented (McDonough, 2006).

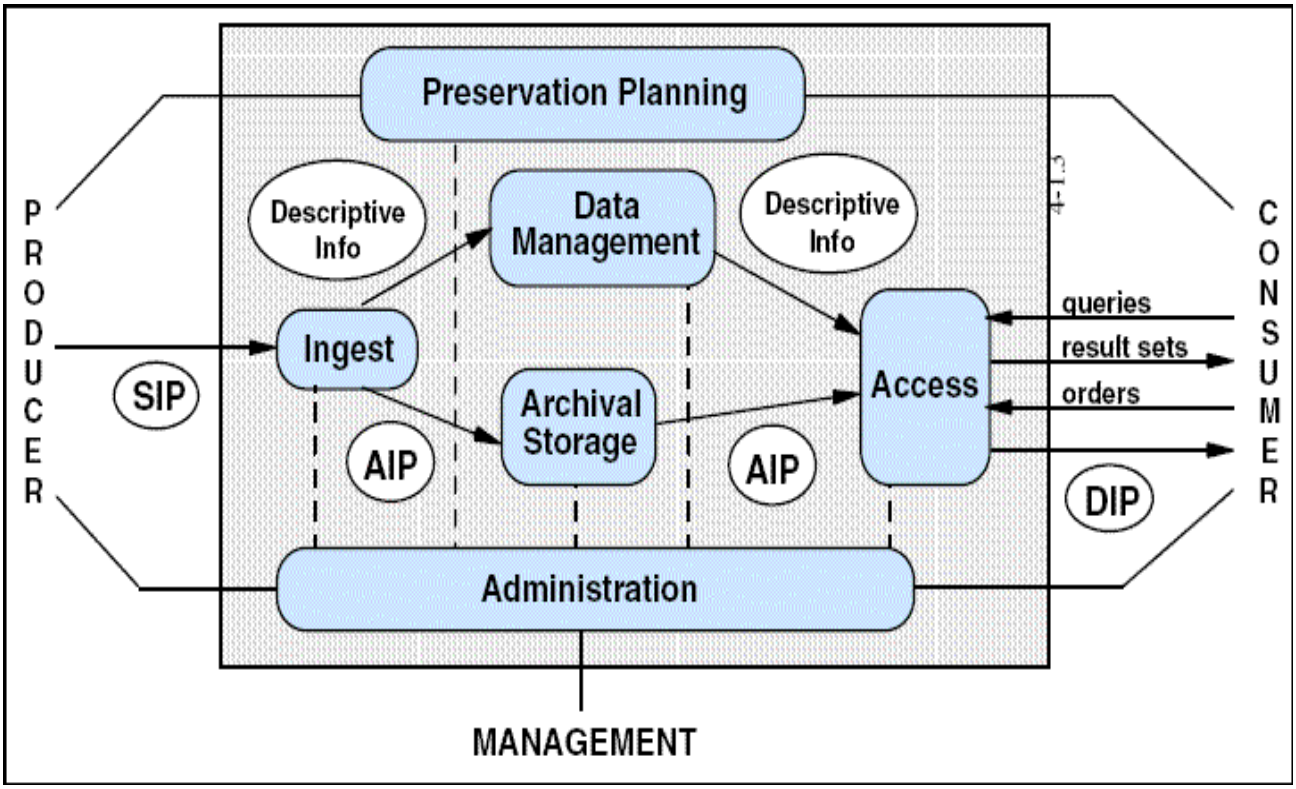

Figure 2.1 OAIS Functional Model. Adopted from Sawyer & Reich (2002)

The reference model identifies and describes the core set of mechanisms with which an OAIS-type archive meets its responsibility of preserving information over the long-term and making it accessible to the designated community. These preservation processes are summarized by the OAIS functional model as follows:

Ingest Entity - the primary functionality in this entity is responsible for accepting information submitted by producers and preparing it for inclusion in the archival repository. Ingest has several functions such as receiving Submission Information Packages SIPs, performing quality assurance on SIPs, generating an Archival Information Package (AIP) which complies with the archive's data formatting and documentation standards, extracting Descriptive Information from the AIPs for inclusion in the archive database and coordinating updates to (Archival Storage and Data Management {CCSDS}, 2002).

Archival Storage - is the integral part of the archival system which deals with the management of the long-term storage and maintenance of digital materials entrusted to the OAIS such as online, near-line and offline.

Data Management - The main functions of this entity include maintenance of the databases which it is responsible for performing queries and report generation in response to requests from other functional entities of the OAIS.

Preservation Planning - majorly this entity is responsible for planning preservation strategy and making appropriate revisions and recommendation to this strategy in response to evolving OAIS environment.

Access - The main functionality of access is the responsibility for the management of the processes and services by which consumers and the designated community locate, request, and receive delivery of items residing in the OAIS's archival store. Majorly access communicate with consumers to receive requests, coordinate the execution of requests to successful completion, generating responses (Dissemination Information Packages (DIP), result sets,

reports) and deliver the responses to Consumers. Finally, Access is responsible for implementing any security or access control mechanisms associated with the archived content. (Beedham, Missen, Palmer & Ruusalepp, 2004).

Administration - This entity is responsible for administering the operation of the archiving and access systems, tracking system performance and synchronizing updates to the system as appropriate.

Lavoie (2013) states that the use of the term OAIS implies an archival system dedicated to preserving digital information and making it available over the long term, as well as meeting, in some form, the six mandatory responsibilities and makes it available to its designated community.

In light of the above, OAIS model will be adopted as the theoretical framework of the study due to its universal acceptance as a standard and a framework designed specifically for digital preservation of archives. The model further suit the study since it focuses on the key aspects of access through which designated community locate the archival storage, preservation planning which encompasses the policy strategy formulation and finally the archival storage which has the key aspect of security both for physical and electronic archives. In summary, OAIS model seek to answer the research objectives and questions under study.

2.3 Empirical Literature Review

Kaniki (1999) asserts that no research exists in a vacuum but relies on previously done studies or writings that put research into perspective. The review of related studies presented below served to highlight gaps in the literature that needed exploration. In addition, as Leedy & Ormrod

(2001) intoned, the literature review reveals investigations similar to one's own and can show a researcher how collateral researchers handled similar situations.

2.3.1 State of Digital Records Management in the Provincial Government of Eastern Cape

A study undertaken by Munetsi (2005), established that that there is a records management programme which caters for digital records management in the Office of the Premier (OTP). The majority of the respondents (90%) knew that the department had a records management programme which also supported digital records management. The study revealed that records such as the leave forms, employee wellness and records of benefits of employees and recruitment forms were being generated and accessed online using the new system. Although most of the respondents (76.7%) indicated that they received training on how to use the filing system, the records manager was of the opinion that less focus on digital records management training posed a challenge to the new system. Personal observation revealed that there is lack of skills in this area despite efforts to train staff.

A review of literature by IRMT (1999) indicated that lack of training in governments affects the operations for effective digital records management. The study adopted a case study approach. Further the study adopted a mixed method approach by using quantitative and qualitative methods to examine how digital records are managed in the Office of the Premier (OTP). Triangulation was achieved in this study by using interviews, questionnaires and nonparticipant observation as data collection techniques. Data analysis was by thematic categorization based on objectives.

The study recommends that there is a need for a dedicated section/unit with the responsibility for the management of digital records. The unit should also be responsible for the formulation of

standards, coordination, monitoring and evaluation of all Digital Record Management (DRM) initiatives in the OTP. Also, the study further recommends tightening the current security and preservation practices of digital records in the OTP. There should be distinction between the physical and content security and preservation of digital records.

Finally, the study recommends that the office of the Chief Information Officer should spearhead the formulation and implementation of a policy as well as rules and regulations to govern the security and preservation of digital records. Therefore, the above recommendation of physical & content security and policy formulation forms part of the objectives that this study seeks to unearth the underlying reasons and thus this study examine the status of digital preservation of corporate archives at Kenya Power and Lighting Company.

2.4 Conceptual Framework

Miles and Huberman (1994) defined conceptual framework as a written or visual presentation that explains either graphically or in narrative form the main things to be studied. It provides the structure/content for the whole study based on literature and personal experience. It can also be defined as an analytical tool with several variations and contexts. The independent and the dependent variables of the study are clearly highlighted in the conception framework. In this study the dependent variable was preservation aspect of digital archives whereas the independent variables were factors of digitization (accessibility, relevant preservation policies, security aspect of digital archives and challenges related to digital preservation.

Independent variables **Dependent variables**

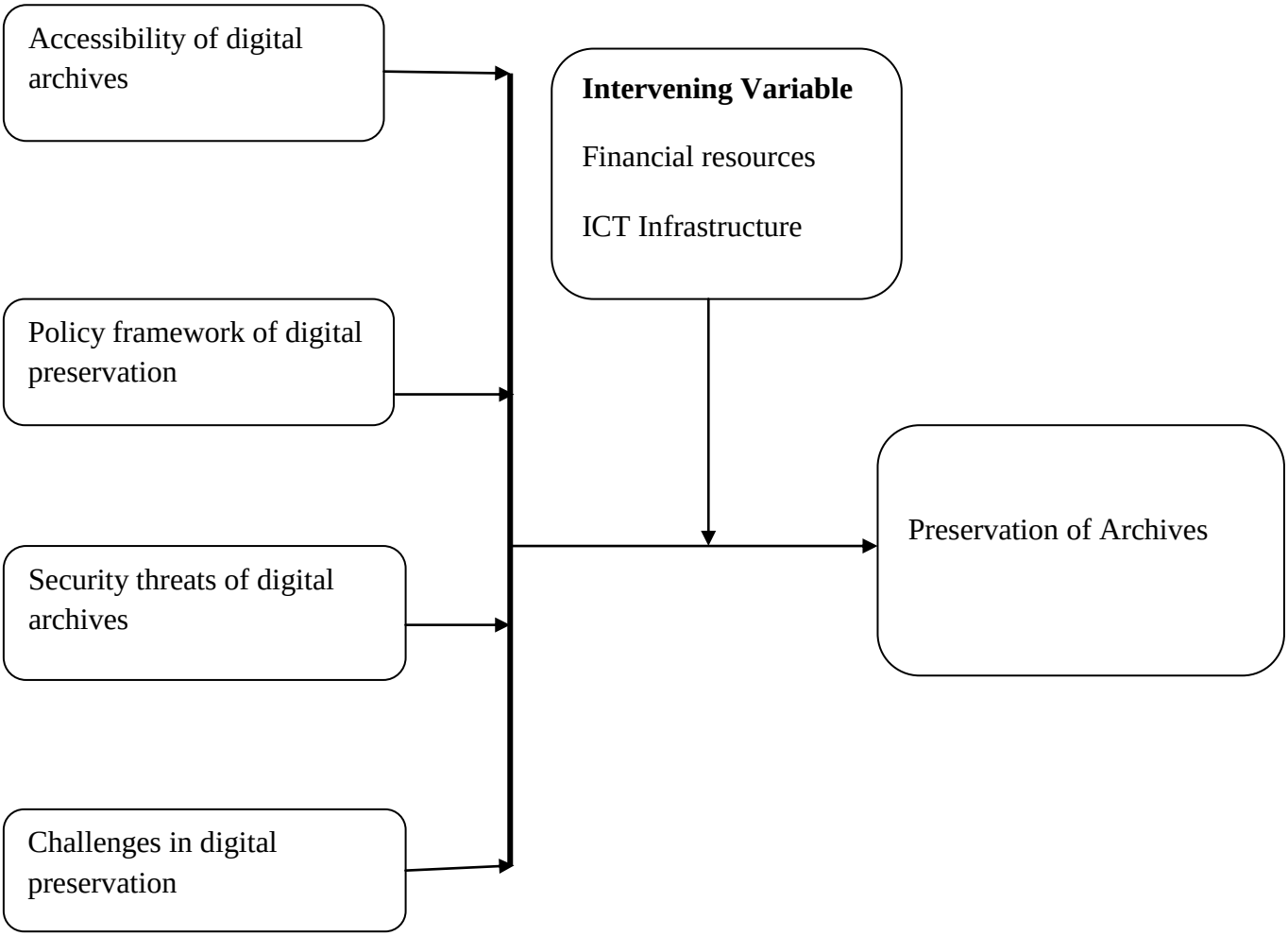

Figure 2.2 Conceptual Framework (Source, Author (2019)

2.4.1 Accessibility

Accessibility is defined as the availability of records/archives for consultation as a result both of legal authorization and the existence of finding aids. The principle of digital preservation is to enable decision-making in the future. In the quest to choose a strategy, library should enact the content and associated metadata to allow for actions to be taken or not taken at the discretion of

the controlling party. Archives strive either manually or digitally to maintain the trustworthiness and originality of records as it was received. Smith (2012) defined authenticity as the trustworthiness of a record and it purports to be and free from corruption. A combination of organizational of policies, security procedures and documentation can be used to provide evidence that the meaning of the records has not been altered.

2.4.2 Digital Preservation Policies

A digital preservation policy provides the framework for action and planning to ensure the long-term maintenance and preservation of an organization's records. Following a digital preservation policy through the records' active life will facilitate preservation over the long-term for inactive records; whether it is the creator who preserves the records, or a trusted third party. Lyman and Besser (1998) noted that the long term preservation of information in digital form requires a number of strategies such as technical solutions, new organizational strategies and building of new cultures that values and supports the survival of bits over time.

Also, Beagrie, Semple, Williams and Wright (2008) reinforced the idea that digital preservation policy should be integrated with business drivers, activities and functions such as regulatory compliance, staff development, applied technology and academic excellence to ensure long-term access and future benefit which is heavily dependent on digital preservation strategies being in place.

The Electronic Resource Preservation and Access Network's {ERPANET} (2003), states that a preservation policy is the cornerstone of the collection management framework. It sets out the roadmap of an organization and as such it remains on a reasonably high level. A written policy is

a sign of goodwill that the organization is addressing the question of what needs to be preserved, for what purpose and for how long thus generally implying taking the responsibility to preserve digital material. Absence of preservation policies implies that stakeholders in institutions lack commitment thus posing a great gap in the research design of many of the projects.

The policy facilitates the effective management of digital records ensuring the organization is able to carry out its mandated functions. Continuing effective management of and access to digital records ensures they are available within an organization to support operations and decision-making.

2.4.3 Security

Information Security is the process of being protected against the unapproved use of information, especially electronic data, or the measures taken to achieve this. It is a general term that can be used regardless of the form the data may take (e.g. electronic, physical). Information Security issues revolve around system security such as protection of digital preservation and networked systems from external / internal threats; collection security such as (protecting content alteration, the authorization and audit of repository processes); and the regulatory framework aspects such as confidential information in the digital material, secure access, redaction.

Numerous types of electronic resources identified for preservation may contain classified information that must be protected to ensure they are not accessed by non-authorized users. To ensure reliability and authenticity of digital records; data encryption and security management strategies should be ensured (IRMT, 1999). Thus the security environment can be regarded as being composed of the following elements:

Physical security – The first level of digital materials is the physical security employed by an organization to protect its buildings and resources. This include: site perimeter security; building access security and room access security. This measure ensures that it stops unauthorized access to the site, building and room containing the PC running the analytical system and holding the electronic records (Munetsi, 2011).

Procedural security/ user training – Organizations typically have policies and procedures covering the security of their electronic records. This involves: how user name and passwords are allocated, managed and kept secret and secure; how IT property such as personal computer (PC) and networks are protected and controlled and how software installations are controlled and supported.

Training is carried out to ensure that the users understands the importance of personal computer security, how electronic records are secured, the appropriate precautions to be taken to protect password security and the measures taken in case of password abuse or misuse.

Operating system security - The operating system access is set up to require an individual to have an operating system user name and secret password before the PC can be accessed. This limits and controls access to the personal computer running the organization electronic system application to authorized staff only (IRMT, 1999).

Software application security - Each user has their unique user ID and secret password for the application, giving them specific permissions in the application

Database security – The databases contain all the digital records and can only be accessed by the authorized personnel they cannot be opened for access by third party database packages, editors or other software. This security element uses databases to store data, results and methods, the databases are encrypted and secured as a fundamental part of its electronic record security

provision. The databases contain all the electronic records and can only be accessed by the authorized personnel only. It cannot be opened for access by third party database packages, editors or other software (Kraetzer, Specht, Dittmann & Vielhauer, 2010).

The above mentioned measures will ensure digital preservation security is guaranteed thus it ensures legal and regulatory requirements compliance; protecting digital materials from unauthorized alteration; satisfying accountability requirements by providing audit trail to; act as a deterrent to potential internal security breaches; protect the authenticity of digital materials and safeguard against theft or loss.

2.4.4 The role of digitization in the preservation of archives

Digitization has numerous advantages thus it is seen as a glamorous because of the following:

Increased productivity - faster access to the information has been achieved by using retrieval tools such as databases and indices compared to the traditional eye-on-paper scrolling through a hard-copy finding aid. Digital preservation enhances the ability to share, collaborate, exchange and access documents in seconds, reducing the turnaround time further increasing the efficiency for your business (Sampson, 1992); **Multiple access points** – digitally preserved materials can be accessed in different ways such as using a database is able to search the records using creator's name, file name or date of creation (Egbuji, 1999); **Preservation of fragile hard-copy records –** digitized materials can be accessed severally by different users without altering originality. Also digital copies allow fragile paper based copies of materials to remain safely in the institution's custody under ideal environmental conditions (Mnjama and Wamukoya, 2006) and **Enhanced information preservation** – finally, digitized copies of the hard copy records has

the ability of enhancement because the deteriorating documents has the benefit of having a much clearer image (Green & Courtney, 2016).

2.4.5 Challenges faced during preservation of digital archives

Digitization has immense benefits in the preservation process but that is coupled with some challenges such as human error, data loss, fading memory, lack of effective education and technological obsolescence. The major challenges of digital preservation are mainly human and machine dependent despite the availability of mobile technology and hardware devices (Moghaddam, 2010).

Technological Challenges - Technological changes such as fragility of media, file deterioration, and hardware and software obsolescence are major challenges to viable digital records management programmes. Without suitable storage conditions, they will deteriorate (Kirkwood, 1994); **Digital media -** Digital materials are fragile in nature because the they are stored in magnetic and optical media that deteriorate quickly upon exposure to heat, humidity, airborne contaminants, or faulty reading and writing devices (Hedstrom & Montgomery, 1998). Digital media deterioration can be circumvented if proper procedures are adapted to the needs of technology;

Changes in technology – obsolescence introduced by galloping technological change require massive investment to overcome it in digital archiving process. (Feeney, 1999). Therefore access of digital materials is perked on availability of required hardware and software to access since they are machine dependent and;

Authenticity and context – to ensure integrity, authenticity and reliability of digital archives proper procedures established must be adhered to in every cycle. Records management systems need to be to intertwine the contextual information in an organization regarding business procedures. Authenticity and integrity digital materials are valuable in different areas such as scholarly, legal evidential requirements and enforceable requirements by government agencies regarding authenticity.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research design and methodology applied in conducting this study. It presents the research design, the population, sample size, sampling procedure, data collection instruments, data analysis and ethical considerations.

3.2 Research design

Research design is a plan that describes how, when and where data are to be collected and analyzed (Parahoo, 1997). This research problem is best studied through the use of descriptive research. According to Burns and Grove (2003), descriptive research is plotted to give a picture of a situation as it naturally happens. It may be used to justify current practice and make judgment and also to develop theories. The study adopted a mixed method approach. This is because the study was used to gain in-depth information behind the role of digitization in the preservation of archives at KPLC. It provided further details into the area being studied and aid in developing hypotheses for the research.

3.2.1 Qualitative Research

Qualitative approach is defined as a logical subjective approach used to describe life experiences and situations to give them a definition and a deeper understanding (Burns & Grove, 2003). Qualitative research is explorative in nature because it seeks to get an understanding of underlying reasons, opinions and motivations (Lichtman, 2006). Its primary purpose is to give a deeper understanding of the problem or aid in developing hypotheses for potential quantitative

research. Majorly, data collection instruments for qualitative data vary from unstructured to semi-structured techniques such as focus groups (group discussions), interviews and observations. Ordinarily, the sample size for qualitative research is small and respondents are chosen to fulfill a given quota.

3.2.2 Quantitative Research

Quantitative research is a structured way of collecting and analyzing data obtained from different sources that can be transformed into actionable statistics (Babbie, 2010). Its main used to give opinions, behavior and to quantify attitudes to give generalization of results from larger sample population. Quantitative data collection instruments are much more structured than Qualitative data collection thus it includes surveys, interviews, longitudinal studies, website interceptors, online polls and systematic observations.

3.2.3 Mixed Research Method

Creswell and Clark (2011) defined mixed research method as the process of gathering, examining and mixing both quantitative and qualitative data in one study or series of studies. Its central premise is that the use of quantitative and qualitative approaches, in combination provides a better understanding of research problems than either approach alone.

Mixed research methods collect and analyze both quantitative and qualitative data by mixing the two forms of data in different ways and giving priority to one or both forms of data than can be in a single study or in multiple phases of a study (Fidel, 2008). Therefore, in this study the researcher adopted descriptive and inferential statistical method to analyze the qualitative and quantitative data because the two methods played a collective role towards proper and effective

data analysis and construction of research findings as a complementary means to establish the role of digitization in the preservation of archives at KPLC.

3.3 Population of the study

Polit and Hungler (1999) defined population as a well-defined collection of individuals, objects or subjects that integrate to a set of specifications or have similar characteristics. Neuman (2006) further defined research population as the complete set of individuals, cases or objects with some common observable characteristics. Population therefore refers to the larger target group to which the research seeks to focus on. The population for this study comprised of 74 respondents; 20 staff in the Information and Communication Technology (ICT) who provides technical support such as hardware and software update, virtual private network (VPN) and 54 staff in records & archives department with specialized skills of reformatting.

3.3.1 Target population

Lessler and Kalsbeek (1992) defined target population as the particular group of people that is indentified for researching and analyzing. The target population for this study was derived from 20 staff members working in the ICT division and 54 staff members working in the records management department under the company secretary, legal & corporate affairs division electricity house. The record management department forms the integral part of digital preservation since reformatting take place at this level while ICT team offers integrated computer systems, coordinating and providing end-user training and general technical support.

Table 3.1 Target Population

Strata	Target Population	Percentage (%)
ICT Department	20	27
Records Management Department	54	73
Total	**74**	**100**

3.4 Sampling Techniques

A sample is a set of data collected from group or sub-group obtained from the accessible population (Mugenda & Mugenda, 1999). The study utilized census sampling method. Census is a sampling method applied when the population is less than 200 respondents. Hence for this study all the 74 respondents formed the sample size for the study.

3.5 Data Collection Tools and Procedure

Freeman and Haddow (2008) defined data collection as a process of preparing and collecting data. A formal data collection process is necessary as it ensures that data gathered is both defined and accurate and that subsequent decisions based on arguments embodied in the findings are valid.

3.5.1 Questionnaire

Administration of questionnaire is the only way to obtain self-report on people's feeling, attitudes, beliefs and values (Sproul, 2005). Semi structured questionnaire was the main data collection instrument used in this study. The questionnaires were used because they allowed the respondents to give their responses in a free environment and helped the researcher to gather the required information.

3.6 Pilot Study

Piloting helps the researcher to generate an understanding of the concept of the people being interviewed. In conducting the pilot study, the researcher was interested in establishing whether the respondents had the same understanding of the questions and thus would offer the information required. Mugenda and Mugenda (2003) posit that "even the most carefully constructed instrument cannot guarantee to obtain one hundred percent reliability". Piloting is important as it helps in determining the reliability of the instrument. A pilot study was conducted at KPLC, Electricity House and Stima Plaza, Nairobi in two key divisions of the Company's Secretary Division and Information Communication Division. The pilot study involved three key participants in the study as follows; the General Manager ICT, Company Secretary (Legal Officer) and the Chief Records Officer. In this research, 7 respondents were chosen to contribute and were not included in the sample chosen for the study. Test-retest reliability is obtained by administering the same test repeatedly over a period of time and still produces the same results. During piloting the researcher administered the questionnaire to a different set of respondents who are not part of the groups of sampled respondents, but similar in characteristics to those sampled for the study. The piloting process also played the important role of checking the respondents for their suitability, clarity, relevance of information and appropriateness of the language used.

3.6.1 Validity

Validity is the degree to which an instrument measures what it purports to measure (Mugenda & Mugenda, 2003). It is the accuracy and meaningfulness of inferences, which are based on the research results. In this regard, experts in the field of projects achieved the content validity

through an evaluation of the content. The instruments were given to two groups of experts, one group was requested to assess what concept the instrument was trying to measure and the other group was asked to determine whether the set of items accurately represents the concept under study.

3.6.2 Reliability

Reliability refers to the consistency of data arising from the use of a particular research method. A test measures what it is measuring to the degree. Mugenda (2003), states that reliability is the measure of the degree to which a research instrument yields the same result after repeated trials over a period. In this regard, test-retest was employed to check on reliability. This involved administering the same instruments twice to the same group of subjects, but after some time. Hence, to determine stability, a measure or test was repeated on the subject at a future date. Results were compared and correlated with the initial test to give a measure of stability. Responses obtained during the piloting were used to calculate the reliability coefficient from a correlation matrix. The reliability of the instrument was estimated using Cronbach's Alpha Coefficient which is a measure of internal coefficient. This figure is usually considered desirable for consistency levels.

Table 3.2 Reliability Coefficients

Variable	Number of items	Cronbach's Alpha
Accessibility	5	0.862
Policies	6	0.814
Security Aspects	5	0.769
Technological Challenges	4	0.775

3.7 Data Analysis

Data analysis is the process of systematically gathering and summarizing data with the intention to extract useful information (Lewis-Beck, 1995). The questionnaires were structured into thematic areas based on the objectives of the study and coded for ease of analysis using the Statistical Package for Social Sciences (SPSS) version 23. The analyzed data was tabulated and graphically presented.

3.8 Ethical Issues

Neuman (2003) defined ethics as principles of conduct that are considered correct especially those of a given profession or group. The principles of conduct are the most important as they address the issue of the content of ethical behavior. The researcher first obtained the respondents informed consent before issuing out questionnaires. Participants were made aware of the type of information the researcher wanted from them, why the information was being sought, what purpose it would be used for and how they were expected to participate in the study and of how would directly or indirectly affect them. Respondents were assured of their rights including the rights to consent, protection of information disclosure and respect for their privacy when collecting data. Finally, the researcher obtained the letter from Kenya Methodist University (KeMU) and National Commission for Science, Technology & Innovation (NACOSTI) for authorization and confidentiality.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents results and discussion of the study. Questionnaire was the main data collection instrument. Data analysis was based on the objectives of the study thus presentation was descriptive and inferential in nature. The presentation of the data was done according to the way the questions were structured on the questionnaire following the study objectives. Tables and figures were used to present data.

4.2 Questionnaire Return Rate

This part analyzes information on the questionnaires that were returned from the field. Findings on filled in questionnaires and unreturned questionnaires are presented in Table 4.3.

Table 4.3 Response Rate

Response	**Frequency**	**Percentage**
Duly filled questionnaires	66	89.2
Un returned questionnaires	8	10.8
Total Response Rate	**74**	**100**

Out of the sampled population, 66 questionnaires were returned duly filled in making a response rate of 89.2%. The response rate was representative and was adequately used to answer the research questions. According to Mugenda (2003) that a response rate above 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent.

4.3 Demographic Information of the Respondents

The respondents' personal information included highest education qualification. The findings are as shown in the subsequent section

4.3.1 Highest Education Qualification

The respondents were requested to indicate their highest education qualification. The findings on analysis of respondents highest education qualification has been presented on Table 4.4

Table 4.4 Level of Education

	Frequency	**Percentage (%)**
O-level	4	5.4
Certificate	7	9.5
Diploma	19	25.6
Undergraduate degree	28	37.8
Postgraduate degree	16	21.6
Total	**74**	100%

From the findings, most (28) of the respondents had undergraduate degree as their highest level of education, 19 had diploma education, 16 were post graduates, 7 had certificate, while 4 had O-level. Based on the findings, the study revealed that the respondents had adequate and relevant knowledge skills and competence in their respective fields of work. Therefore, the organization upholds professionalism especially when handling records management.

4.4 General Awareness of Digital Preservation

4.4.1 Types of Digital Records Preserved

The study sought to establish the types of digitally preserved archives at KPLC. The respondents were asked to state the types of digital records created and preserved at Kenya Power Limited. The findings of the study revealed that 30.9 percent of the respondents stated annual reports of the organization (activities, statistics, finances, high and low moments, achievement), 27.3 percent declared audited financial records, 18.2 percent avowed service delivery reports on the number of monthly installations, customer complaints among others, 14.5 percent affirmed employment records of the organization (number of staff, management and volunteers) while 9.1 percent stated company profile. Figure 4.1 shows the findings of the study.

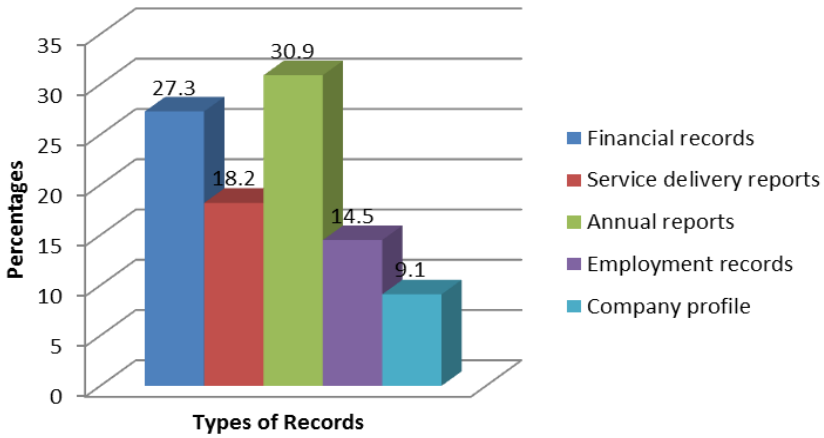

Figure 4.1 Types of Digital Records

4.4.2 Formats of Digital Records

The respondents were requested to indicate the format the digital records are preserved at KPLC. The findings are as shown in table 4.5 below.

Table 4.5 Formats of Preserving Digital Records

Format	Percentage
Images Files	56%
Data files	68%
Text Files	60%
Databases	72%

From the findings 72% of the respondents indicated that the files were preserved in data bases in their department, 68% indicated data files, 60% indicated text files, while 56% indicated image files. The findings revealed that KPLC is open to preservation of digital records hence embracing the various formats for preservation. Also, the findings points out the organization's readiness and ability to preserve the digital materials in new formats.

4.4.3 Handling Digital Records

The respondents were asked to indicate how digital records are handled when they are received at the KPLC repository. The findings are as shown in table 4.6 below

Table 4.6 Handling Digital Records

Handling of the records	Percentage
Checked for viruses	80%
Checked to see if the digital records are readable/can be opened	68%
Check files against deposit documentation	70%
Check sums generated	59%
Copied to different storage media	79%
Migration to current versions of file formats	61%
Normalization to open formats	53%
No action taken, digital records are stored on their transfer media	48%

From the findings 80% of the respondents indicated that document were checked for viruses when they are received in the Archive Service, 79% indicated they were copied to different storage media, 70% indicated the files were checked against deposit documentation, 68% indicated they were checked to see if the digital records are readable/can be opened, 61% indicated they were migrated to current versions of file formats, 59% indicated they were checked for sums generated, while 53% indicated normalization was done to open formats. The study findings revealed that the level of handling digital records has ensured that there is no data corruption and unauthorized access in which the integrity, reliability and confidentiality of digital records could be compromised.

4.5 Accessibility of Digital Archives

To safeguard the confidentiality of digital records, classification and grading was considered as a major factor hence the various accessed level discussed below.

4.5.1 Type of Access on Digital Records

The respondents were requested to indicate the type of access they allow on digital records held by their archival services. The findings are presented in the figure 4.2

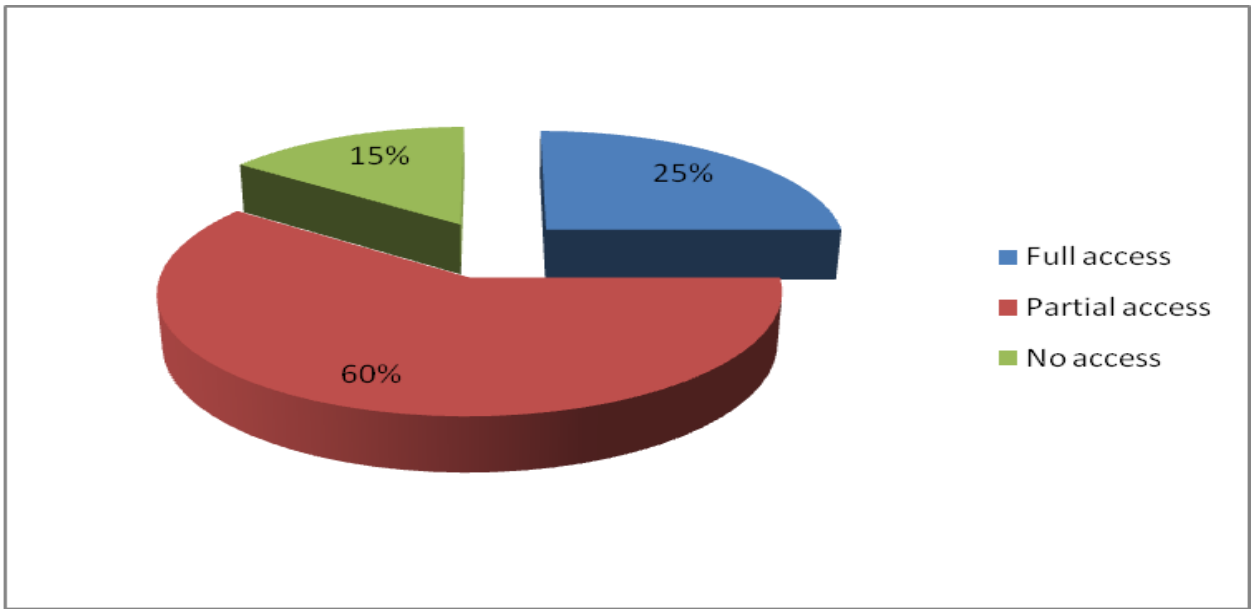

Figure 4.2 Type of Access on Digital Records

According to the findings majority (60%) of the respondents indicated partial access, 25% indicated full access, while 15% indicated no access. From the findings of the study, it is evident that KPLC has focused on security grading and classification of information and records hence the different levels of access provided by the organization.

4.5.2 Level of Agreement on Statement Relating to Accessibility of Digital Archives

The respondents were requested to indicate their level of agreement on statement relating to accessibility of digital archives. The findings were placed on a five likert scale where 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree. The findings are shown in table 4.7.

Table 4.7 Level of Agreement on Statement Relating to Accessibility of Digital Archives

Accessibility of Digital Archives	Mean	Std Dev

We access digital records via internet	3.99	0.1124
We access digital records storage digital services like CD ad DVDs	3.86	0.1986
We search digital records via server/storage tapes	3.60	0.1762
We search digital records via emails	3.66	0.1349
We have full access to all digital records in the organization	3.70	0.1876
We cannot access sensitive and vital records	3.73	0.1365
Users are given personalized log in credentials for accountability, integrity and confidentiality	4.11	0.1554

From the findings the respondents agreed that users are given personalized log in credentials for accountability, integrity and confidentiality (mean=4.11), followed by accessing digital records via internet (mean=3.99), accessing digital records storage digital services like CD ad DVDs (mean=3.86), we cannot access sensitive and vital records (mean=3.73), we have full access to all digital records in the organization (mean=3.70), we search digital records via emails (mean=3.66), and that we search digital records via server/storage tapes (mean=3.60).

The study revealed that KPLC has embraced different level of access depending on the nature of the assignment and portfolio one holds in the RM department thus the users are given personalized log in credentials for accountability, integrity and confidentiality.

4.5.3 Provision of Access to Digital Records

The respondents were requested to indicate how they provide access to the digital records held by their archives. The findings are presented in table 4.8

Table 4.8 Provision of Access to Digital Records

Provision of Access to Digital Records	Percentage
No access is provided to digital records	48%
On CD or DVD in the search room	59%
Online in the search room from server storage/tape library	65%
Via the internet	68%

From the findings 68% of the respondents indicated that they provide access to the digital records held by their archives via the internet, 65% indicated online in the search room from server storage/tape library, 59% indicated on CD or DVD in the search room, while 48% indicated no access is provided to digital records.

The study revealed that the organization appreciates records as key drivers in various business activities hence the diverse access provision. In light of the above mediums of communication, KPLC should consider the adoption and appropriateness of emerging new communication technologies such as social networking sites (Twitter, Face book and blog) to provide access.

4.6 Digital Preservation Policies

Popper and Millar (1999) observed that policy and legislative framework are necessary to create a conducive environment for the effective management of digital records. The legal and regulatory framework spells out how an organization must manage its records. The researcher conducted the study on whether the department had established the legal and regulatory framework for digital records management.

4.6.1 Availability of Policies to Regulate Preservation of Digital Records

The study sought to find out the policies relating to digital preservation of archives at KPLC. The respondents were requested to indicate whether there were any policies that have been developed to regulate the preservation of digital records and archives.

From the findings majority (67%) of the respondents indicated that there were policies that have been developed to regulate the preservation of digital records and archives while 33% indicated there no policies. The findings of the study established that KPLC had policies relating to DRM though they are inadequate in regulating digital preservation.

4.6.2 Level of Agreement on Statement Relating to Digital Preservation Policies

The respondents were requested to indicate their level of agreement on statement relating to digital preservation policies. The findings were placed on a five likert scale where 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree. The findings are shown in table 4.9.

Table 4.9 Level of Agreement on Statement Relating to Digital Preservation Policies

Digital Preservation Policies	Mean	Std Dev
The organization has digital preservation policies	3.70	0.2231
Our digital preservation policies provide clear guideline on digital preservation	3.89	0.2897
We have authorization policies to control access and data modification	3.80	0.2396
Our policies ensures that qualified staff manage digital records	3.75	0.2218
Our policies ensures the use of current and up to date technologies while handling digital records	3.82	0.2873
We are aware of the digital preservation policies of the organization	3.68	0.2180
The awareness of the policies is done through E-mails	3.61	0.2491
The awareness of the policies is done through internet	3.57	0.2246

From the findings the respondents agreed that our digital preservation policies provide clear guideline on digital preservation (mean=3.89), followed by our policies ensures the use of current and up to date technologies while handling digital records (mean=3.82), we have authorization policies to control access and data modification (mean=3.80), our policies ensures that qualified staff manage digital records (mean=3.75), the organization has digital preservation policies (mean=3.70), we are aware of the digital preservation policies of the organization (mean=3.68), the awareness of the policies is done through E-mails (mean=3.61), and that the

awareness of the policies is done through internet (mean=3.57). The findings of the study revealed that KPLC has numerous policies relating to DRM but doesn't have a specific policy on digital preservation of archives thus there is need for policy formulation and implementation. Also, the study established that KPLC has DRM related policies that are inadequate in handling digital preservation.

4.6.3 Awareness of Digital Preservation Policy

The respondents were requested to indicate whether all staff members are aware of the digital preservation policy.

From the findings majority (78%) of the respondents indicated that all staff members are aware of the digital preservation policy, while 22% were of the contrary opinion. The findings revealed that the high level of awareness of existence of policies at KPLC was attributed to current communication technologies such as emails, intranet and circulars.

4.6.4 How Staff Members are Made aware of the Policy

The respondents were requested to indicate how the staff members are made aware of the digital policies. The findings are shown in figure 4.3

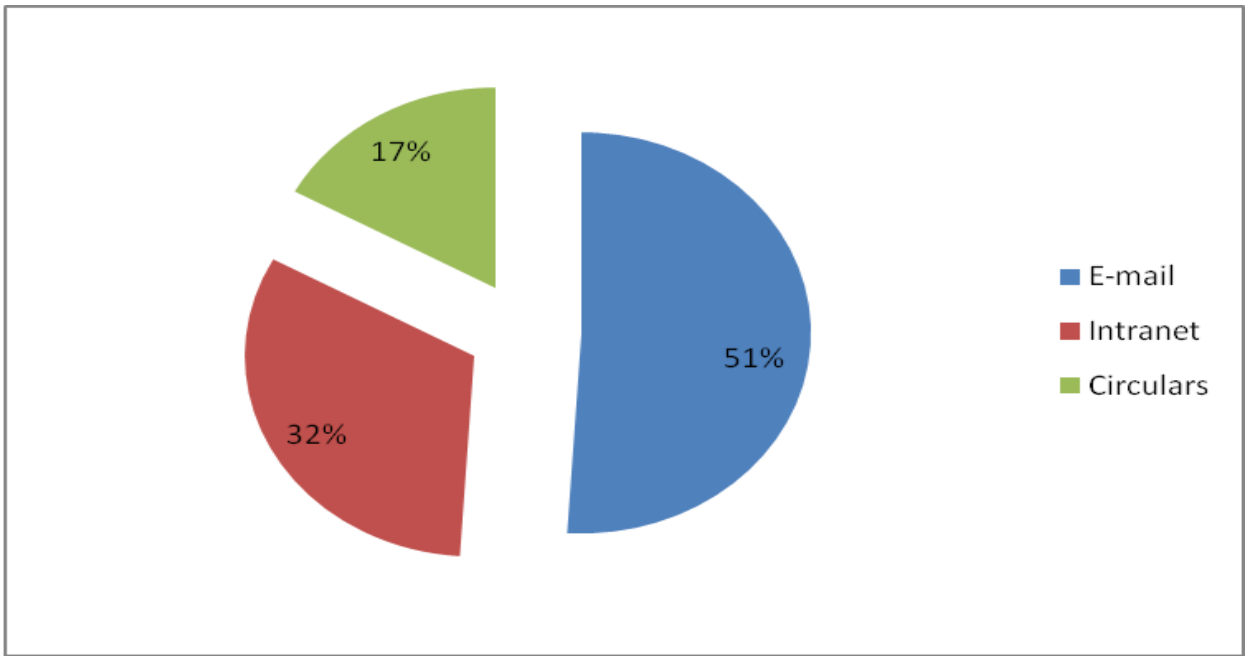

Figure 4.3 How Staff Members are Made aware of the Policy

From the findings majority (51%) of the respondents indicated that staff members are made aware of the digital policies through the email, 32% indicated the intranet, while 17% indicated the circulars. This depicts that the staff members are made aware of the digital policies through the email

4.6.5 Disaster Recovery Plan Policy

The respondents were requested to indicate whether their department had a disaster recovery plan policy for digital records management.

From the findings majority (56%) of the respondents indicated that their department had a disaster recovery plan policy for digital records management while 44% indicated there wasn't. The findings revealed that disaster recovery plan was in place to facilitate retrieval of information should the system crash.

4.7 Digital Preservation Security

The study sought to analyze security challenges related to digital preservation of archives at KPLC. The respondents were requested to indicate their level of agreement on statement relating to digital preservation security. The findings were placed on a five likert scale where 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree. The findings are shown in table 4.10.

Table 4.10 Digital Preservation Security

Digital Preservation Security	Mean	Std Dev
There are digital threats to our digital records	3.90	0.4224
The organization ensures data and database security by allowing authorized access and modifications only to responsible officers	4.23	0.4986
We have regular security user training programs that enable employee detect any hick-up on the system,	4.19	0.4762
The organization provide system security that protected its software applications as well as the operating systems	4.04	0.4349
There is a security system in place	3.81	0.4876
The organization has data back-up	3.76	0.4365

From the findings the respondents agreed that the organization ensures data and database security by allowing authorized access and modifications only to responsible officers (mean=4.23), followed by we have regular security user training programs that enable employee detect any hick-up on the system (mean=4.19), the organization provide system security that protected its software applications as well as the operating systems (mean=4.04), there are digital threats to our digital records (mean=3.90), there is a security system in place (mean=3.81), and

that the organization has data back-up (mean=3.76). The findings of the study revealed that KPLC has proper procedures and mechanisms in place to ensure security of data and database by allowing authorized access and modifications only to responsible officers. Further, the study noted that security policy for the management and storage media of digital records was conspicuously missing thus urgent formulation of policy and implementation is required.

4.8 The Role of Digitization in the Preservation of Archives

The respondents were asked to state the role played by digitization process in the preservation of digital archives. The findings of the study revealed that the respondents were aware of the role of digitization in the preservation process. These roles included the following:

Increased productivity – database and indices are among the retrieval tools which have a trend of faster access to the information compared to the traditional eye-on-paper scrolling through a hard-copy. The respondents noted that KPLC had adopted the digitization process thus sharing, collaboration, exchanging and accessing documents by reducing the turnaround time further increasing the efficiency of their business.

Continuous Access - The study established that KPLC had focused on security grading and classification of information and records hence the different levels of access provided by the organization. Digitized records were easily accessed either through clouds or system using any device that is internet enabled. Indexing helped in building a high level classification so that records could easily be retrieved by refining search results.

Enhanced security - The study found out that KPLC had put in place different level of security measures for digital records. Additionally, classification ensured that authorized users accessed the records and workflow was setup based on determination of access privileges for an individual which enhanced the security and maintained the confidentiality of the records.

Disaster recovery – The study established that KPLC had a disaster recovery plan in place thus retrieval of information in case the system crashed. Through digitization, records can be shared on cloud or electronic document management systems (EDRMS) thus offering a safe repository enabling recovery of documents.

Enhanced information preservation - The study established that KPLC had embraced the various formats for preservation such as data files, image files, text files and databases because information stored in paper formats is degradable if it is handled manually. Digitization guarantees posterity by ensuring that important data is saved and preserved for the future by the organization.

4.9 Digital Preservation Challenges

The study sought to identify the challenges surrounding digital preservation of archives at Kenya Power and Lighting Company. The respondents were requested to indicate their level of agreement on statement relating to digital preservation challenges. The findings were placed on a five likert scale where 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree. The findings are shown in table 4.11.

Table 4.11 Digital Preservation Challenges

Digital Preservation Challenges	Mean	Std. Dev
Digitization preservation process is inadequately funded in our organization	3.78	0.5032
The organization has obsolete hardware and software	3.62	0.5436
There is insufficient ICT facilities and fragile storage media that break easily leading to loss of data	3.87	0.5540
There is inadequate expertise and shortage of DRM Skills	3.69	0.5432

From the findings the respondents agreed that there is insufficient ICT facilities and fragile storage media that break easily leading to loss of data (mean=3.87), digitization preservation process is inadequately funded in our organization (mean=3.78), there is inadequate expertise and shortage of DRM Skills (mean=3.69), and the organization has obsolete hardware and software (mean=3.62). This depicts that there is insufficient ICT facilities and fragile storage media that break easily leading to loss of data thus these factors negatively impact on the level of service delivery offered by the RM staff.

4.10 Inferential Statistics

The researcher conducted a multiple regression analysis so as to test relationship among variables (independent) on the preservation of corporate archives at KPLC. The researcher applied the statistical package for social sciences (SPSS V 21.0) to code, enter and compute the measurements of the multiple regressions for the study. Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the

independent variables or the percentage of variation in the dependent variable (preservation of corporate archives at KPLC) that is explained by all the four independent variables (accessibility, policies relating to digital preservation, security threats, and challenges).

4.10.1 Regression Analysis

Regression analysis was undertaken with respect to examine the role of digitization in the preservation of corporate archives at Kenya Power and Lighting Company. Multiple linear regression analysis was used to analyze the relationship between a single dependent variable and several independent variables (Beagrie et al., 2009). The findings are shown in table 4.12.

Table 4.12 Model Summary

Model	R	R Square	Adjusted RSquare	Std. Error of the Estimate	F	P-value
1	.930[a]	.864	.858	.239	47.341	.000

a. Predictors: (Constant), accessibility, policies relating to digital preservation, security threats, and challenges

b. Dependent Variable: Preservation of Corporate archives at KPLC

From the analysis in the table above R^2=0.864, i.e. 86.4% variation in that preservation of corporate archives at KPLC is explained by predictors in the model. However 13.6% variation unexplained in preservation of corporate archives at KPLC is due to other factors not in the regression model. From this test result the model is a good model and can be used for estimation purposes. From the findings shown in the table above there was a strong positive relationship between the study variables as shown by R=0.930, i.e. 93% this indicates that there is a

significant relationship between the predictor variables and preservation of corporate archives at KPLC.

4.10.2 Analysis of Variance (ANOVA) Results

Table 4.13 ANOVA of the Regression

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.596	4	2.649	46.474	.023[a]
	Residual	6.099	107	.057		
	Total	**18.390**	**111**			

a. Predictors: (Constant), accessibility, policies relating to digital preservation, security threats, and challenges

b. Dependent Variable: Preservation of Corporate archives at KPLC.

The significance value is 0.023 which is less than 0.05 thus the model is statistically significance in predicting how the factors (accessibility, policies relating to digital preservation, security threats, and challenges) influence Preservation of Corporate archives at KPLC. The F critical at 5% level of significance was 2.01. Since F calculated is greater than the F critical (value = 46.474), this shows that the overall model was significant.

4.10.3 Coefficient of Determination

Table 4.14 Coefficient of Determination

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
Model 1(Constant)	0.181	0.416		0.192	0.847
Accessibility	0.469	0.100	0.383	4.69	0.033
Policies relating to digital preservation	0.140	0.014	0.157	0.002	0.015
Security threats	0.309	0.086	0.317	0.027	0.013
Challenges	0.350	0.110	0.159	0.039	0.029

a. **Dependent Variable: Preservation of Corporate archives at KPLC**

Multiple regression analysis was conducted to determine the preservation of corporate archives at KPLC and the four variables. As per the SPSS generated table above, regression equation

(**Y =** $\beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$) becomes:

($Y= 0.181+ 0.469X_1+ 0.140X_2+ 0.309X_3+ 0.350X_4+ \varepsilon$)

According to the regression equation established, taking all factors into account (accessibility, policies relating to digital preservation, security threats, and challenges) constant at zero, the preservation of corporate archives at KPLC will be 0.181. The data findings analyzed also showed that taking all other independent variables at zero, a unit increase in accessibility will lead to a 0.469 increase in the preservation of corporate archives at KPLC; a unit increase in policies relating to digital preservation will lead to 0.140 increase in preservation of corporate archives at KPLC, a unit increase in security threats will lead to a 0.309 increase in preservation

of corporate archives at KPLC, while a unit increase in challenges will lead to a 0.350 increase in preservation of corporate archives at KPLC. This infers that accessibility contributes the most to the preservation of corporate archives at KPLC, followed by policies relating to digital preservation. At 5% level of significance and 95% level of confidence, accessibility, policies relating to digital preservation, security threats, and challenges were all significant on preservation of corporate archives at KPLC.

CHAPTER FIVE

SUMMARY OF THE KEY FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presented summary, conclusion and recommendations on the role of digitization in the preservation of corporate archives at KPLC.

5.2 Summary of the Key Findings

This chapter gives a summary of the findings and conclusions based on the objectives of the study. The summaries are presented to reflect the objectives based on the data presentation analysis and interpretation dealt with in chapter four.

5.2.1 Accessibility of Digital Archives

The study found that partial access was permitted for digital records held by their archival services. The study found that users are given personalized log in credentials for accountability, integrity and confidentiality. The findings revealed that KPLC is open to preservation of digital records hence embracing the various formats for preservation. Also, the findings pointed out the organization's readiness and ability to preserve the digital materials in new formats.

5.2.2 Digital Preservation Policies

The study established that there were policies that have been developed to regulate the preservation of digital records and archives. The study also found that digital preservation policies provide clear guideline on digital preservation. The study established that all staff members are aware of the digital preservation policy. The study found out that KPLC has

numerous policies relating to DRM but doesn't have a specific policy on digital preservation of archives thus there is need for policy formulation and implementation. Also, the study established that KPLC has DRM related policies that are inadequate in handling digital preservation.

5.2.3 Digital Preservation Security

The study sought to analyze security threats related to digital preservation of archives at Kenya Power Limited.

The study revealed that KPLC has proper procedures and mechanisms in place to ensure security, long-term preservation and accessibility of digital records for effective governance. Technical measures to prevent unauthorized access and alteration have been considered by assigning RM staff with login credentials (username and password) thus integrity, reliability and confidentiality of digital records could not be compromised. Further, the study noted that security policy for the management and storage media of digital records was conspicuously missing thus urgent formulation of policy and implementation is required.

5.2.4 The Role of Digitization in Preservation of Archives

The study sought to determine the role of digitization in preservation of archives at KPLC. The study revealed that KPLC had adopted the digitization process to allow the stake holder ability to share, collaborate, exchange and access documents in seconds, reducing the turnaround time further increasing the efficiency of their business. Also, the study found out that KPLC had enhanced security by putting in place different level of security measures for digital records.

Finally, the study established that KPLC had embraced the various formats for preservation such as data files, image files, text files and databases because information stored in paper formats is degradable if it is handled manually as well as having a disaster recovery plan in place thus retrieval of information should the system crash.

5.2.4 Digital Preservation Challenges

The study sought to identify the challenges surrounding digital preservation of archives at KPLC.

The study established that insufficient funding was established to be the major setback since latest DRM technologies required huge capital and skilled human resource.

Also, the study established that there are insufficient ICT facilities and fragile storage media that break easily leading to loss of data.

5.3 Conclusion of the Study

The study concluded that digitization plays a significant role in the preservation of corporate archives. The findings of the study confirmed that the respondents were aware of the role digitization play in the preservation process as outlined below:

The findings revealed that KPLC is open to preservation of digital records hence embracing the various formats for preservation, thus preservation ensures digital records remain authentic and usable for archival development as a measure of obsolescence.

The digitization continue to offer great advantages for access to the corporate archives by allowing users to locate and retrieve the preserved materials with ease and in an efficient manner.

The study revealed that the KPLC appreciates records as key drivers in various business activities hence the diverse access provision. Therefore, with digitization, the preservation of original copies and format of the records is guaranteed.

The study established that KPLC had policies that enhanced the preservation of digital records and archives. These policies included; authorization policies, staff development policies, disaster recovery plan policy, application of latest technology in preservation of information as well as regulatory compliance policy. Therefore, the presence of the policies enhanced the preservation guide at KPLC.

Finally, security is of great concern during preservation process, thus the study found out that KPLC had put in place different level of security measures for digital records. Further, security helped to preserve the records while maintaining its integrity, authenticity and credibility.

5.4 Recommendations

Based on the findings and conclusions, the following recommendations were made:

5.4.1 Adoption of New Communication Technologies

The study revealed that; e-mails, circulars and intranet were the major mode of communication at KPLC thus it was established that ICTs facilitated effective communication.The study recommends that corporate communication manager put more emphasis on the social networking sites (face book, twitter and blogs) as the emerging trends of communication to raise awareness of the digital preservation related policies.

5.4.2 Research and Development

The study established that KPLC digital preservation policy was absent though the organization had developed policies related to digital preservation archives such as; authorization policies, application of latest technology and staff development policies.

The study recommends that the Chief Records Officer should review existing policies to ensure access level; competences and regulatory compliance of the digital records are met.

Also, research towards new policies for format of digital records such as security policy which ought to be undertaken both by Legal Manager and Chief Records Officer since obsolescence and aging storage media put electronic records at risk. Storage media are affected by dual problems of obsolescence and decay thus limited shelf life and obsolete in a few years.

5.4.3 Capacity Building

The study found out that KPLC had inadequate expertise and shortage of DRM Skills thus the study recommends that Chief Manager Human Resource and Administration should develop a detailed training plan revolving around the needs of the department. The board of management must ensure that financial resources are available to support the training needs as well as facilities that could enhance digital records management programme.

The study also recommended that Chief Manager Human Resource and Administration should sponsor RM staff to get formal training of digital records management (DRM) skills eg. Institutions of higher learning offering RM courses such as Moi University, Kenya Methodist University, Technical University and Kenyatta University so as to bridge the gap posed by advancement of the technologies that generate digital records.

5.4.4 Budgeting

The study established KPLC insufficiently fund the RM activities in the organization. The study acknowledges that adoption of ICTs requires huge capital and skilled human resource.

Therefore the study recommends that Chief Finance Manager should in the budget making process factor in the appropriation of funds for purchase of computers, software and training of staff to improve their competence particularly in digital preservations of archives to improve service delivery as well curbing obsolescence.

5.4.5 Digital Preservation Strategies

The study found out that KPLC is grappling with the obsolescence of hardware and software. Therefore, digital preservation strategies are needed to ensure digital records and archives remain authentic and usable for archival development. They must ensure preservation of digital records in the simplest way possible. It is recommended Senior Records Officer (Reformatting) adopts migration and emulation as the key strategies of preservation.

5.5 Suggestions for Further Research

The current study was to investigate the role of digitization in the preservation of corporate archives at Kenya Power and Lighting Company therefore:-

(i) Further research should be conducted on the capacity building strategies to manage digital records in Rural Electrification Authority.

(ii) To establish how public organizations identify cost model factor in digital preservation projects at Kenya Electricity Transmission Company Limited.

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APPENDICES

APPENDIX I: Introductory Letter to Respondents

Kenya Methodist University

Department of Information Science

P.O. Box 45240-00100

Nairobi.

Dear Respondent

I am student at Kenya Methodist University pursuing Master of Science in Information Science. I am conducting a study on **'The Role of Digitization in the Preservation of Corporate Archives at Kenya Power and Lighting Company'**. The aim of the study is to investigate the role of digitization in the preservation of corporate archives at KPLC.

The objectives of this study is to: determine the accessibility of the digitally preserved archives at KPLC; find out the policies relating to digital preservation of archives at KPLC; analyze security threats related to digital preservation of archives at KPLC and to find out the challenges of digital preservation of archives at KPLC.

In order to elicit the required information, you are kindly requested to respond honestly and objectively to all the items in the questionnaire to the best of your knowledge. This information will be used for academic purposes only and the information provided will be treated with the utmost confidentiality it deserves.
Your assistance will be highly appreciated.

Ronoh, Kipngenoh Elvis

Cell phone: 0724463211 or Email: elvisronoh@gmail.com

APPENDIX II: Questionnaire on Digitization and Preservation of Archives for Staff

Section A: Background Information

1. What is your highest education qualification?

i) O-level ☐

ii) Certificate ☐

iii) Diploma ☐

iv) Undergraduate Degree ☐

v) Postgraduate Degree ☐

v) Other qualifications ☐

Section B: General Awareness of Digital Preservation

2**.** What types of digital records do you create and preserve?

i) ……

ii) ……...

ii) ……...

iv) ……..

3. In what format are the digital records preserved in your department?

i) Images Files ☐

ii) Data files

iii) Text Files

iv) Databases

v) Other: Specify……

4. How are digital records handled when they are received in the Archive Service?

i) Checked for viruses

ii) Checked to see if the digital records are readable/can be opened

iii) Check files against deposit documentation

iv) Checksums generated

v) Copied to different storage media

vi) Migration to current versions of file formats

vii) Normalization to open formats

viii) No action taken, digital records are stored on their transfer media

ix) Other (please specify)……..……..

……

Section C: Accessibility of digital archives

5. (a) What type of access do you allow on digital records held by your archival services?

Full access ( ) Partial Access ( ) No Access ( )

(b) Kindly indicate your level of agreement to the statement below relating to accessibility of digital archives. Use a scale of 1-5, where 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Accessibility of Digital Archives	**1**	**2**	**3**	**4**	**5**
We access digital records via internet					
We access digital records storage digital services like CD ad DVDs					
We search digital records via server/storage tapes					
We search digital records via emails					
We have full access to all digital records in the organization					
We cannot access sensitive and vital records					
Users are given personalized log in credentials for accountability, integrity and confidentiality					

6. What determines the type of access allowed on digital records held by your archive services?

……..……..

……

7. How do you provide access to the digital records held by your archives?

i) No access is provided to digital records ☐

ii) On CD or DVD in the search room ☐

iii) Online in the search room from server storage/tape library ☐

☐

iv) Via the internet

Section D: Digital Preservation Policies

8. (a) Are there any policies that have been developed to regulate the preservation of digital records and archives? Yes ☐ No ☐

If yes, what policies…….…….

If NO, state why…..…….…….

(b) Kindly indicate your level of agreement to the statement below relating to digital preservation policies. Use a scale of 1-5, where 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Digital Preservation Policies	**1**	**2**	**3**	**4**	**5**
The organization has digital preservation policies					
Our digital preservation policies provide clear guideline on digital preservation					
We have authorization policies to control access and data modification					
Our policies ensures that qualified staff manage digital records					

Our policies ensures the use of current and up to date technologies while handling digital records					
We are aware of the digital preservation policies of the organization					
The awareness of the policies is done through E-mails					
The awareness of the policies is done through internet					

9 (a). Are all staff members aware of the digital preservation policy?

Yes ☐ No ☐

b). How are staff members made aware of the policy?

i) E-mail ☐

ii) Intranet ☐

iii) Circulars ☐

iv) Other, Specify…….……..……..

……

10. Does your department have a disaster recovery plan policy for digital records management?

i) If Yes ☐

ii) If No ☐

iii) No idea ☐

Section E: Digital Preservation Security

11. Kindly indicate your level of agreement to the statement below relating to digital preservation security. Use a scale of 1-5, where 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Digital Preservation Security	**1**	**2**	**3**	**4**	**5**
There are digital threats to our digital records					
The organization ensures data and database security by allowing authorized access and modifications only to responsible officers					
We have regular security user training programs that enable employee detect any hick-up on the system,					
The organization provide system security that protected its software applications as well as the operating systems					
The organization has data back-up					
There is a security system in place					

12. In your opinion what is the role of digitization in the preservation of archives?

……

Section F: Digital Preservation Challenges

13. Kindly indicate your level of agreement to the statement below relating to Digital Preservation Challenges. Use a scale of 1-5, where 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Digital Preservation Challenges	**1**	**2**	**3**	**4**	**5**
Digitization preservation process is inadequately funded in our organization					
The organization has obsolete hardware and software					
There is insufficient ICT facilities and fragile storage media that break easily leading to loss of data					
There is inadequate expertise and shortage of DRM Skills					

Section G: Recommendations

14. What other projects would you recommend for improving the preservation of digital archives at Kenya Power Limited?.....

……

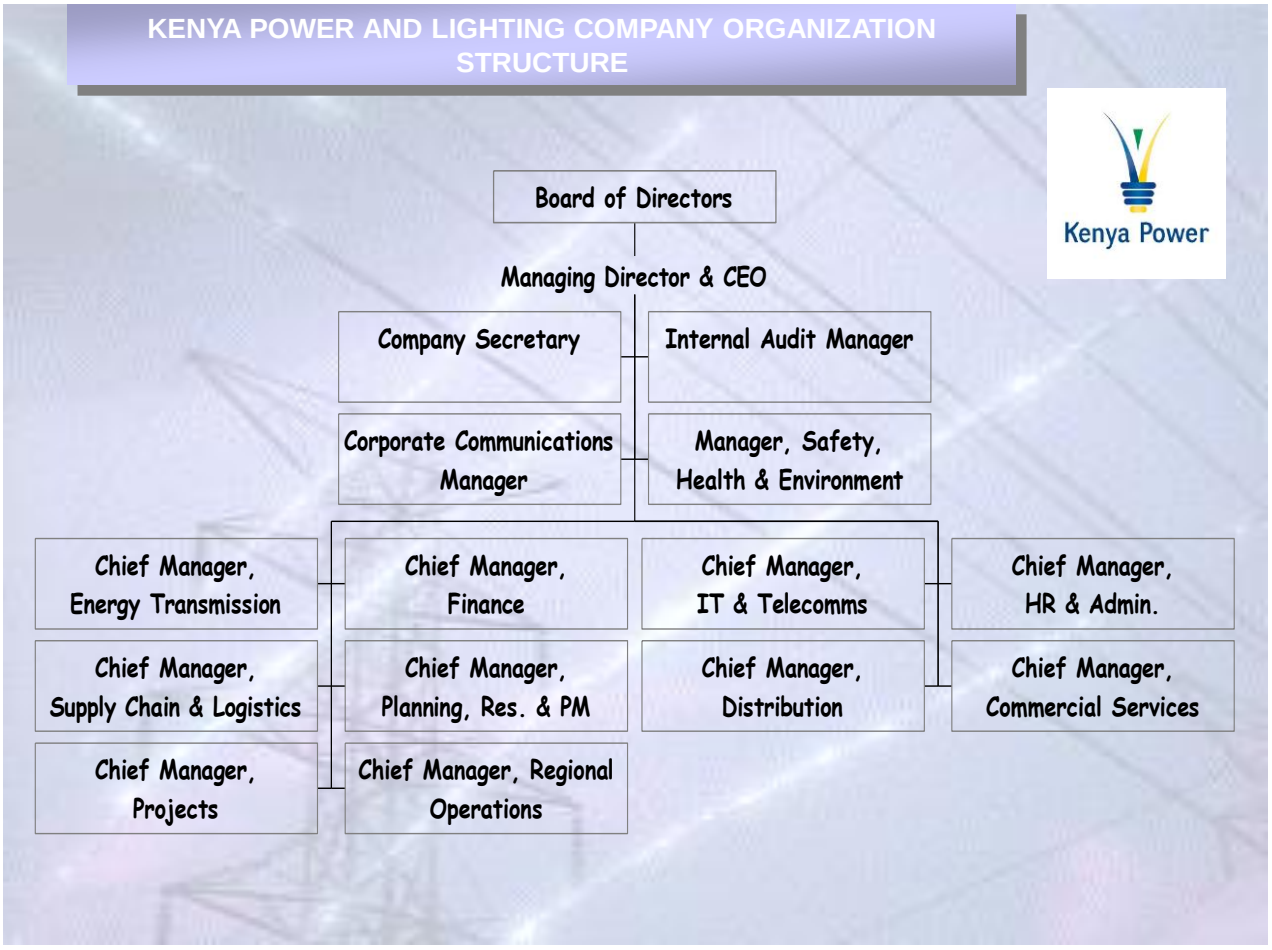
……

……

……

Thank you for your Co-operation

APPENDIX III: Kenya Power and Lighting Company Organogram



APPENDIX IV: Research Authorization Letter from Kenya Methodist University

Kenya Methodist University
P. O Box 267 - 60200, Meru, Kenya, Tel: (+254-020) 2118423-7, 064-30301/31229 Fax: (+254-064) 30162 Email: info@kemu.ac.ke , Website: www.kemu.ac.ke

December 6, 2016

TO WHOM IT MAY CONCERN

RE: RONOH KIPNGENOH ELVIS ISK-3-4500-3/2013

This is to confirm that the above named is a student in the Department of Information Science, in this University, pursuing a Master of Information Science.

As a requirement, the student is expected to undertake an independent **primary research** in their area of specialization.

The purpose of this letter is therefore; to introduce the student to you and request you to allow him undertake the research in your organization.

The student has been advised to ensure that all data and information from the organization is treated with utmost confidentiality and only used for academic purposes unless otherwise stated.

Any assistance accorded to him will be highly appreciated.

KENYA METHODIST UNIVERSITY * DEPUTY REGISTRAR ACADEMICS * NAIROBI CAMPUS * P. O. Box 45240 * 09 DEC 2016

Yours faithfully,

Mr. Bernard Baimwera
Deputy Registrar, Academic Affairs

APPENDIX V: Research Authorization Letter from National Commission for Science, Technology and Innovation (NACOSTI)

NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: 020 400 7000,
0713 788787,0735404245
Fax: +254-20-318245,318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/17/51783/15184**

Date: **11th December, 2017**

Ronoh Kipngenoh Elvis
Kenya Methodist University
P.O. Box 267- 60200
MERU.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"The role of digitization in preservation of corporate archives at Kenya Power Limited,"*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for the period ending **11th December, 2018.**

You are advised to report to **the Managing Director, Kenya Power and Lighting Company, the County Commissioner and the County Director of Education, Nairobi County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

GP Kalerwa
GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The Managing Director
Kenya Power and Lighting Company.

The County Commissioner
Nairobi County.