ASSESSING THE IMPACT OF INSTITUTIONAL E-READINESS FOR PROVISION OF ARCHIVAL INFORMATION TO RESEARCHERS: THE CASE OF KENYA NATIONAL ARCHIVES AND DOCUMENTATION SERVICE

BY

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2013
DECLARATION

This Research Thesis is my original work and has not been presented for an academic award in any other University.

Signed..........................................................Date.............................................

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DEDICATION

This research Thesis I dedicate it to my son Raphael Wangutusi for his patience and understanding during difficult times of sickness he still allowed me to go for studies and sit for exams even when he was admitted in the hospital.
# Table of Contents

DECLARATION.................................................................................................................... v
DEDICATION...................................................................................................................... vi
ACKNOWLEDGEMENT......................................................................................................... xii
LIST OF ABBREVIATIONS AND ACCRONYMS ............................................................... xiii
ABSTRACT......................................................................................................................... xv

CHAPTER ONE .................................................................................................................. 1

INTRODUCTION AND BACKGROUND .............................................................................. 1
1.0 Introduction.................................................................................................................. 1
1.1 Background of the study ............................................................................................ 5
1.2 Statement of the Problem .......................................................................................... 10
1.3 Aim of the Study ....................................................................................................... 11
1.4 Objectives of the Study ............................................................................................ 12
1.5 Research Questions ................................................................................................... 13
1.6 Significance of the Study .......................................................................................... 13
1.7 Assumptions of the Study ......................................................................................... 14
1.8 Delimitation/Scope of the Study ............................................................................... 14
1.9 Limitations of the Study ........................................................................................... 15
1.10 Definition of Terms .................................................................................................. 15
1.11 Summary of the Thesis ............................................................................................ 18

CHAPTER TWO: THEORETICAL FRAMEWORK ............................................................... 19

Literature Review .............................................................................................................. 19
2.0 Introduction ............................................................................................................... 19
2.1 Importance of Literature Review .............................................................................. 19
2.2 Theoretical Framework ............................................................................................. 20
3.4 Pretesting of the instrument ................................................................. 46
3.4.1 Validity and Reliability ........................................................................ 46
3.5 Data Collection Procedures ................................................................. 47
3.6 Data Presentation, Analysis and Interpretation .................................... 47
3.7 Ethical Considerations ........................................................................... 48
3.8 Summary of the Chapter ........................................................................ 48

CHAPTER FOUR .......................................................................................... 50
DATA PRESENTATION, ANALYSIS, AND INTERPRETATION .................... 50
4.0 Introduction ........................................................................................... 50
4.1 Respondents Return Rate ...................................................................... 50
4.2 Relevance of the model to KNADS ....................................................... 71

CHAPTER FIVE ............................................................................................ 73
SUMMARY, CONCLUSION AND RECOMMENDATIONS .............................. 73
5.0 Introduction ........................................................................................... 73
5.1 Summary of the findings ......................................................................... 73
5.1.1 E-readiness Infrastructure at KNADS ............................................. 73
5.1.2 Channels currently used to access information at KNADS ............ 74
5.1.3 The challenges experienced by the management, staff and researchers. ................................................................. 74
5.1.4 Level of adoption to modern technology in provision of information to the researchers ................................................................. 75
5.1.5 Role of staff in provision of information, competency, adequacy and professionalism. ................................................................. 75
5.1.6 Existence of an e-readiness model at the KNADS ......................... 76
5.2 Conclusion .............................................................................................. 76
5.3 Recommendations of the Study ............................................................. 79
5.4 Suggestions for Further Research .......................................................... 81
REFERENCES ............................................................................................... 83
Appendix 1: Recommendation Letter ............................................................. 86
Appendix 2: Interview schedule for KNADS Director and his Assistant .......... 87
Appendix 3: Interview schedule for the KNADS ICT Officer ......................... 88
Appendix 4: Interview schedule to the Researchers (Users) ......................... 89
Appendix 5: Interview schedule for the KNADS senior Staffs (Search-room officers) ..................................................................................... 90
Appendix 6: Interview schedule for the KNADS senior Staffs (Repository officers) ....................................................................................... 91
Appendix 7: Pretest checklist ......................................................................... 92
Appendix 8: E-Readiness’s ranking globally ................................................... 93
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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDISS</td>
<td>Collaborative Development of Interactive Software Systems</td>
</tr>
<tr>
<td>CDs</td>
<td>Compact Disks</td>
</tr>
<tr>
<td>CSPP</td>
<td>Computer System Policy Project</td>
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<tr>
<td>EIU</td>
<td>Economist Intelligence Unit</td>
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<td>IBM</td>
<td>International Business Management Corporation</td>
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<td>ICT</td>
<td>Information and Communication Technologies</td>
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<td>IRMT</td>
<td>International Records Management Trust</td>
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<td>ISO</td>
<td>International Standards Organization</td>
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<tr>
<td>KNADS</td>
<td>Kenya National Archives and Documentation Service</td>
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<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>ESARBICA</td>
<td>Eastern and South African</td>
</tr>
</tbody>
</table>
List of Tables

Table 2.3   E-Readiness ranking globally

Table 3.1   Study population
ABSTRACT

The rapid rate of internet penetration throughout the world and the dramatic advances in the use of information and communication technologies in government and industry has occasioned a growing interest and literature on e-readiness in both developed and developing countries. E-readiness at the Kenya National Archives and Documentation Service is in the infant stages comprising only of online database, availability of computers in a few sections and the use of microfilm readers and printers. This has made information provision and access at Kenya National Archives and Documentation Service largely a manual process compelling researchers and other users to fill in requisition forms and wait for attendance to retrieve information for them. This study assessed e-readiness at Kenya National Archives and Documentation Service and its impact on provision of archival information to researchers with a view to coming up with a best-practice model to enhance access to archival information. The objectives were to: Evaluate e-readiness infrastructure at the Kenya National Archives & Documentation Service; examine how access to archival information and documents was practiced; determine the challenges experienced with regard to access to archival information and documents; examine the role of Kenya National Archives and Documentation Service staff in provision of archival information and their professional capacity and competencies to achieve efficiency and effectiveness and propose a best-practice framework or model for provision of archival information. The study employed qualitative research methods in which interview guides were developed and administered to respondents’ one on one. This study was informed by International Records Management Trust E-readiness model. The study sample size comprised of 9 respondents from Kenya National Archives and Documentation Service and researchers whose number was only determined at the conclusion of data collection. The study established that the KNADS had inadequate e-readiness infrastructure, lack of an ICT policy and e-readiness model; inadequate space and personnel to provide efficient and effective services to researchers. The researcher recommends that the department develops a written ICT policy customized from the Government of Kenya ICT policy; and adopt the International Records Management Trust E-readiness model as part of its e-readiness strategy. The researcher hopes that this will enhance provision and access of archival information to researchers and other users.
CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.0 Introduction

Archival Information are records usually but not necessarily noncurrent records of enduring value selected for permanent preservation. These records are normally preserved in an archival repository. Archival information provides a reliable and authentic knowledge base, enabling the past to be reconstructed and understood. Without archival information, the past would remain largely unknown. By documenting the significant decisions, transactions and events of political, social and economical life, archival sources serve as an essential link in the chain of human history. These materials are preserved and managed by specialist archival institutions such as National Archives where they are safeguarded and made available for use (IRMT, 2004).

Archivists possess unique skills that enable them to select, acquire, process and administer archival information. This makes it possible for members of the public to gain access to various kinds of knowledge and use it. For many archives all over the world, the new Information and Communication Technologies (ICT’s) are already having a great impact on the acquisition, storage, access and use of information resources. In view of this, an organization’s e-readiness status is important in determining its preparedness to meaningfully exploit ICT to meet its mandate.

In a networked world, large amounts of e-content are being generated but the methods of managing such content remain inadequate. Besides the networked world goes beyond the Internet and links people to people, people to business, people to
information, and people to culture (The American Library Association, 2003). Such
networked world encompasses traditional telecommunications and computing systems
and employs new frameworks that move data, audio and video via increased
bandwidth, wireless technologies and systems. Electronic information, also known as
digital information has transformed the way we learn, communicate and even think.
It is also changing the way we not only work, but more fundamentally, the very work
we do. Information and communication technologies in general and the internet in
particular continue to have an enormous impact on society in promoting social
equality of knowledge. People are able to access the same information, making it
easier to define knowledge and culture as common values.

Cultural heritage institutions, such as Archives, Libraries and Museums’ require a
major physical and technical preservation effort. They must adapt and change with
the pace of society and store growing quantities of educational and cultural materials
on networks or in some other digital form and facilitate access to them. This involves
converting large quantities of documents from one format to another, often
transferring them to some other storage medium. In modern societies archives are
particularly important to the promotion of access and use of the materials in their
custody. Without such services, the society cannot be democratic, open and
transparent. Besides, proper Archival Management enables citizens to gain access to
a wide range of archival information. However, these institutions must invest in ICT
tools, systems and services, which cannot succeed unless the institutions are e-ready

The rapid rate of internet penetration throughout the world and the dramatic advances
in the use of Information and Communication Technology (ICT) in government and
industry has occasioned a growing interest and literature on e-readiness in both developed and developing countries. (Choucri et al., 2003b:2).

The concept of E-readiness was originated by the intent to provide a unified framework to evaluate the breadth and depth of the digital divide between more and less developed countries during the later part of 1990s, Acre and Hopmann, (2002). This concept refers to the ability of a country or an organization to pursue value creation opportunities facilitated by the use of the internet. Choucri et al., (2003a:4). Multinepal (2000) describes e-readiness assessment as an information gathering mechanism that is helpful in planning the strategies for ICT development and examining what constraints exist within a country or an organization.

Many scholars have looked at e-readiness of a country or organization differently. There is no standard definition of e-readiness and the term is still open to discussion. However, for the purpose of this research, the term e-readiness is used to mean e-preparedness in terms of having proper infrastructure, adequate hardware and integrated software in place, training of staff in e-access and use, and finally, the transaction of business online via the internet, intranet and extranet and off line by use of flash disks, CDs and Memory cards within the country or the organization.

The Computer Systems Policy Project (CSPP) (1998), a public policy advocacy group comprising of US information technology companies, developed an e-readiness assessment tool known as the Readiness guide for living in the Networked world. Computer System Policy Project, (CSPP) defines a community’s e-readiness as high speed internet access in a competitive market; constant access and application of ICT in schools, government offices, business, healthcare facilities and homes; user privacy and online security; and government policies that are favourable to promoting
connectedness and use of the network (Bridges 2001). In contrast, the Centre for International Development at Harvard University, defines e-readiness in relation to a society that has, the necessary physical infrastructure (high bandwidth, reliability, and affordable prices); integrated ICTs throughout business, communities and government, Bridges (2001)

Since 1998, several organizations and agencies, largely from developed countries, have developed different macro e-readiness assessment tools to measure such phenomena at national level across key sectors of the economy. These organizations include, but are not limited to, McConnell International, a Global Technology Policy and Management Consulting Firm; the Centre for International Development at Harvard University; the Economist Intelligence Unit (EIU); the International Data Corporation; the United Nations Conference on Trade and Development (UNCTAD); United Nations Development Program; and the Mosaic Group (Rizk, 2004). Each of the e-readiness assessment tools defines and measures e-readiness differently, Bridges (2001).

Similarly, Docker (2002) observes that the term e-readiness represents multiple levels of ICT development and that the exact definition of what constitutes e-readiness is still open to debate. On the other hand, Agriculture and Food Canada (2001) note that there are many degrees of e-readiness, which could be using e-mail as the most preferred communication method; using a website for internal and external communications; selling goods and services using the internet; making travel arrangements using online internet services and finding and purchasing computer equipment and software, supplies or service through a company website.
1.1 Background of the study

Archival institutions all over the world are given the mandate of collecting, storing and disseminating the information to their users. The Kenya National Archives and Documentation Service, was established by an Act of parliament, The Public Archives Act of 1965. The Act came into force on 25th January 1966. The Act was revised in 1990 to become The Public Archives and Documentation Service Act, Cap 19 of the Laws of Kenya. A slight amendment to Section 3 (1) was effected to rename the department the Kenya National Archives and Documentation Service. The amendment similarly renamed the position of Chief Archivist to Director. Notable was the inclusion of Section 5A that distinctly set up the National Documentation Service and outlined its major roles. The Department was empowered to select, collect, process, house, control and preserve all bound documents created by any government ministry or department.

Circular No.2 paragraph 6 “Disposal of Records” section (i) of 1963, revised in 1972 stated that: In order to deal quickly with the accumulated backlog of non-current records, the Cabinet authorized the immediate transfer to the Archives of Records dated earlier than 31st December 1945. The result of this backlog of records led to a shortage of storage space at the National Archives resulting in the accumulation of valueless materials, which have continued to hinder professional activities at the Kenyan Archives. Due to the large accumulation of records in offices across government the National Archives has established Records Centres to deal with such situations. These include: Nairobi Records Centre – (1980); Mombasa Records Centre – (1980); Kakamega Records Centre – (1981); Nakuru Records Centre – (1982); Kisumu Records Centre – (1989)
Besides the Public Archives and Documentation Service Act (Cap 19), there is another Act, the Records Disposal Act (Cap 14) which regulates the management of court records. Other Subsidiary Legislation includes the Books and Newspapers Act, Cap 111 laws of Kenya. This latter Act recognises the Kenya National Archives and Documentation Service as a Legal Deposit, in addition to the Kenya National Library Service and the University of Nairobi Library.

The Public Archives and Documentation Service Act (Cap 19) mandates the department to advise public offices on creation, care, control and use of public records; acquisition and preservation of public archives and records of permanent value as well as availing records and archives to users. The Act stipulates the duties of the department as being “to examine any public records; advice on the care; preservation; custody and control”. The law gives the Director Powers to transfer to his custody any public records which he considers, should be housed in the national archives. Section 5A of the same Act directs the Permanent Secretaries, Heads of Government Departments and Chief Executives of State Corporations and Local Authorities to supply to the Director of KNADS copies of any published or generally circulated document or report produced by that office whether in hard copy or microfilm.

Section 5A (2) specifically directs the Government Printer to supply to KNADS copies of every publication produced. The department is also mandated by section 5A (5) to initiate appropriate measures for the establishment and development of documentation link centres in Government Ministries, Departments and Parastatals where such centres do not exist. While section 5A (6) states that “the service shall,
through the documentation link centres; coordinate the acquisition and preservation of reports and other generally circulated documents in the Public Service.”

Section 6 (1) of the Public Archives and Documentation Service Act, (Cap 19) states that: subject to any written law prohibiting or restricting the disclosure of information obtained from members of the public and to the provisions of this section, public archives which have been in existence for a period of not less than thirty years (30) may be made available for public inspection, and it shall be the duty of the Director to provide reasonable facilities at such times, and on the payment of the prescribed fees, for members of the public to inspect or obtain copies of, or extracts from, such archives.

Besides other duties, the Public Archives and Documentation Service also provides functions such as advisory services to public offices on all matters relating to the creation, control and general management of public records on acquisition, processing and preservation of public records and public archives. It also provides reference services and research facilities to public offices and the public in need of archival information and participates in the promotion of records and archives services in Kenya. The department has four divisions namely Records Management Division; Archives Management Division, Administrative Division and National Development Division.

The above divisions use finding aids to retrieve information requested by the researchers. The Finding aids are guides or lists of the collections that are available and maintained at the Kenya National Archives and Documentation Service to enable users to access and use the archival materials. These aids are in both manual and electronic formats.
Using the manual catalogue the researcher is required to go through the guide after guide to be able to get the materials for research. In the manual system it becomes difficult to access the material if the researcher is not familiar with the use of the catalogue. This process is long and tiring. Computerised catalogue is a process whereby the finding aids are in digital format. It is a user friendly system whereby the researcher can use the keywords and the entire related search is highlighted to enable the researcher to select the area of interest.

The computerised finding aids at the Kenya National archives need to be updated since most of the catalogues have no complete references. This makes the staff retrieving the materials take long in retrieving the materials. The files are not yet uploaded on the computers as the digitization process is in progress. The library has an NDS database running on Collaborative Development of Interactive Software Systems (CDISS) Automation Software, Audio Visual (AV) Database, Archv for files (archives), JNL Database for Journals, DOCA 9 for Court Records and Microfilm database.

Cap 19 of the laws of Kenya under section 6 (1) states that “subject to any written law prohibiting or restricting the disclosure of information obtained from members of the public and to the provisions of this section, public archives which have been in existence for a period of not less than thirty years may be made available for public inspection, and it shall be the duty of the Director to provide reasonable facilities at such times, and on payment of the prescribed fees, for members of the public to inspect or obtain copies of or extracts from, such public archives.

Section 6(2) of the Act states that the Director may, in respect of any public archives or any category thereof which the person by whom, or in charge of the office from
which, the records concerned were transferred to the national archives has certified to
be of a kind which ought to be made available for public inspection, order that the
public archives or category thereof shall be made available for public inspection
notwithstanding that they have not been in existence for thirty years.

Section 6(3) says that notwithstanding subsection (1), the Director may, in respect of
any public archives or any category thereof which the person by whom, or in charge
of the office from which, the records concerned were transferred to the National
Archives has certified to be of a kind which ought not to be made available for public
inspection, order that the public archives or category thereof shall not be made
available for public inspection notwithstanding that they have been available in
existence for more than thirty years, or shall not be available for public inspection
until the expiration of such further period as may be specified in that or any
subsequent order.

E-Readiness is generally the investigation of an institutional level of preparedness
across several sectors which include dimensions of connectivity, business
environment, consumer and business adoption, legal and regulatory environment,
supporting services and social and cultural infrastructure.

E-Readiness at the Kenya national Archives and Documentation Service is at its
infant stage. There are e-readiness indicators such as computer connectivity, use of
internet for communication, uploading of their services on their website, uploading of
online database during the retrieval of information, having a website where
researchers can find information about their functions. The Internet, Extranet and
Intranet are important for business transaction within and out of the country. The ICT
section has tried to install computers in all the relevant sections but still the machines are not enough for use by the researchers.

The institution is currently using the Collaborative Development of Interactive Software Systems (CDISS) software which has served them well over the years but as Technology advances, they should get integrated software for efficiency and effectiveness in their operation and service delivery to researchers. The department needs to speed up the digitization process and upload all the necessary information on the internet for easy access. Another issue is on the training of their staff to be e-ready, improve on connectivity, bandwidth, and ICT infrastructure.

1.2 Statement of the Problem

The provision of archival information to researchers is largely manual a part from abstract that could be accessed on-line at the Kenya National Archives and Documentation Service. The researchers are expected to access the archival information manually by filling the requisition forms and wait for the attendants to retrieve the information for them. In cases where the information is being used, the researcher has to wait for the information to be returned to the repository before she or he could have access. This manual process leads to delays in accessing and using the archival information. This should not be the case in this electronic era.

Furthermore, it is difficult for the attendants to know whether the archival documents are out unless they physically check on the shelves due to poor classification and misfiling of the information after use. Ultimately, the researcher may not be able to get the required information on time, leading to frustrations. The situation is further
compounded by inadequate staffs that are not trained in use and maintenance of computerised systems and applications of records management procedures.

E-readiness is the ability to use high-speed internet access in a computer market and constant access and application of ICT in schools, government offices, businesses, healthcare facilities and homes (CSPP, 1998). The e-readiness indicators at the Kenya National Archives & Documentation Service are in the infant stage which includes online databases, installation of computers in relevant sections, use of CDISS software and microfilm readers and printers. This alone could not satisfy the users and researchers in access and retrieval of information since they are inadequate.

Furthermore, the department lacked ICT policy and e-readiness model to guide them in restructuring their e-records that are being digitised. It also experienced frequent power surges that interfered a lot with provision and use of archival information to researchers.

It is from this background that the researcher embarked on this study to assess e-readiness at the Kenya National Archives & Documentation Service and its impact on the provision of archival information to researchers with a view of coming up with a best-practice model for the provision of archival information.

1.3 Aim of the Study

The aim of the study was to assess the impact of institutional e-readiness for provision of archival information to researchers: the case of Kenya National Archives and Documentation service with a view to coming up with a best-practice model for the provision of archival information.
1.4 **Objectives of the Study**

This study was guided by the following objectives:-

1. To evaluate e-readiness infrastructure at the Kenya National Archives & Documentation Service.

2. To examine how access to archival information and documents is practiced currently.

3. To determine the challenges currently experienced with regard to access to archival information and documents.

4. To examine the extent to which modern technologies are being deployed in the provision of access to archival information and their impact on information access and use generally.

5. To examine the role of Kenya National Archives and Documentation Service staff in provision of archival information and their professional capacity and competencies to achieve efficiency and effectiveness.

6. To propose a best-practice framework or model for the provision of archival information.
1.5 Research Questions

For the study to achieve the said objectives the study sought to answer the following research questions.

1. How adequate is ICT infrastructure at Kenya National Archives and Documentation Service to provide archival information to researchers?
2. What mechanisms are currently being used to provide access to archival information?
3. What possible challenges are faced in the provision and use of archival information?
4. To what extent have modern technologies been adopted in provision of archival information and how do these affect access to archival information?
5. What is the role of KNADS staff in provision of archival information and what is their level of competencies and capacity?
6. What best-practice framework can be put in place for the provision of archival information?

1.6 Significance of the Study

This study is significant in that it has recommended policy changes which can help Kenya National Archives and Documentation service in the delivery of the information service to its customers. In addition the study has proposed an International Records Management Trust Model for provision of archival information which can be used by librarian and other information provision institution to improve on their service delivery to their customers.
1.7 Assumptions of the Study

This study was conducted with the following assumptions in mind:

Current methods of providing access to archival information and documents using traditional methods are inadequate. The staffs at the Kenya National Archives and Documentation Service are ill prepared to provide archival information in the unfolding digital environment and lacked this competence and capacity to effectively follow this role.

1.8 Delimitation/Scope of the Study

This study was limited to the Kenya National Archives and Documentation Service. The Kenya National Archives and Documentation service is situated in the middle of Nairobi Central Business District. The department has four (4) divisions namely: - Records Management; Archives Management; Administration and National development.

The four division deal with different functions such as providing advisory service to public offices on all matters relating to the creation, control and general management of public records. They also deal with acquisition, processing and preservation of public records and archives, as well as provision of reference services. Besides these four divisions the Kenya National Archives and Documentation Service also has a number of provincial Records Centers at Kenya National Archives and Documentation Service (KNADS). This study will confine itself to Kenya National Archives and Documentation service (KNADS) Nairobi Centre.
1.9 Limitations of the Study

The researcher anticipated two limitations which are worth mentioning here:

The fluctuating numbers of researchers visiting the Kenya National Archives and Documentation Service which was likely to affect the validity of the data that was collected. This was resolved by the researcher stretching the time to be spent at the Kenya National Archives and Documentation Service search-room by taking two weeks leave from her place of work in order to be at the archives physically to meet and interview the respondents. Secondly, the term e-readiness was a new concept to many of the respondents. The researcher was compelled to use closely related terms such as use of ICTs and Electronic preparedness just to mention but a few.

1.10 Definition of Terms

Archival Access

Access is the ability, right or permission to approach, enter, speak with, or use, admittance for example have access to the archival files. Computer access is to locate (data) for transfer from one part of a computer system to another, generally between an external storage device and main storage. The right or privilege to approach, reach, enter, or make use of something.

Archival Information

There are many definitions of archival information. For the purpose of this research archival information can be defined as information objects that serve as evidence of past events. They record information about the past activities and acts as memory
aids that allow its users to recall and relive them or to re-communicate information about those events at some point in the future.

**Archival Record**

ISO (2001) defines a record as “information created, received and maintained as evidence and information by an organization or person, in pursuance of legal obligations or in the transaction of business”.

**E-Readiness**

Computer System Policy Project (CSPP, 1998) defines e-readiness as a high speed internet access in a competitive market and constant access and application of ICT in schools, government, offices, businesses, healthcare facilities and homes.

**I.C.T (Information, Communication Technology)**

Whatis.com defines ICT’s as the use of information in order to meet human need or purpose including reference, to the use of contemporary devices such as the internet. However, in an ever changing world of video phones, mobile computing, blogs, Skype and OSS perhaps we should no longer just include the internet, but leave the definition at contemporary devices.

ICT’s is an umbrella term that includes any communication device or application encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated within them, such as video-conferencing and distance learning. ICT’s are often spoken of in a particular context, such as ICT’s in education, healthcare or Libraries.
**Internet** - The internet is basically a global network of networks connecting millions of computers and other ICT tools to facilitate fast, convenient and reliable information sharing.

**Website** - This is a location on the World Wide Web that is owned and managed by an individual, company, or organization; usually contains a home page and additional pages that include information provided by the site’s owner, and may also include links to other relevant sites. It can also be described as a collection of electronic pages that can contain text, graphic images, and multimedia effects such as sound files, video and animation files.
1.11 Summary of the Thesis

The study was organized in five chapters: Chapter one consisted of the introduction and background to the study, statement of the problem, Aim of the study, Objectives, research questions, significance and definition of terms and Summary of the chapter. Chapter two consisted of the review of the literature related to the study, theoretical framework, empirical literature and conclusion. Chapter three consisted of data collection methods, data collection techniques, study population, data collection instrument, data collection procedure, pre-tests of data collection instrument, ethical considerations. Chapter four dealt with introduction, data presentation, analysis and interpretation, summary of research findings, conclusion and recommendation, aim of the study and suggestion for further research. Chapter five looked at the introduction, summary of the findings, discussion, conclusion and recommendation and data presentation, analysis and inter-presentation. Many organizations are now embracing new technologies in their businesses and it is important that KNADS follow suit and embrace modern technologies in order to enhance provision of services and information to researchers.
CHAPTER TWO: THEORETICAL FRAMEWORK

Literature Review

2.0 Introduction

The term ‘literature’ refers to the analysis of textbooks or manuscripts. Although many people associate literature with novels and poetry, in research its use is more specific. In terms of literature review, the literature means the works the researcher consulted in order to understand and investigate the research problem. A literature review therefore is an account of what has been published on a topic by accredited scholars and researchers. It is a critical look at the existing research that is significant to the work that the researcher was carrying out. It involves examining documents such as books, magazines, journals and dissertations that have a bearing on the study being conducted. It also expounds on the qualities of an effective literature review and guidelines in the literature review. This chapter looked at literature pertinent to e-readiness. It further examined literature on issues of archival access.

2.1 Importance of Literature Review

Literature review sharpens and deepens the theoretical foundation of research. In this study literature review enabled the researcher to study different theories related to the identified topic. It gave the researcher insights into what has already been done in the field study, pinpointing its strengths and weaknesses. This information guided the researcher in the formulation of a theory that aimed at addressing the identified gaps. It enabled the researcher to know the kind of additional data needed in the study. This helped in avoiding duplications of work. It helped in developing an analytical framework or a basis for analyzing and interpretation of collected data.
2.2 Theoretical Framework

A theoretical framework is a collection of interrelated ideas based on theories. It is a reasoned set of preposition, which are derived from and supported by data or evidence. A theoretical framework accounts for or explains phenomena and attempts to clarify why things are the way they are based on theories. Theories in scientific research have been highlighted by various scholars such as Dale (1998), Mugenda and Mugenda (1999), Stakes and Hockings (1999), and Cozby (2001). Dale, (1998) reported that, theories enable researchers to draw new conclusions to improve actions and generate more sophisticated theories.

There are many theories or models of E-Readiness. However, this study examined the following three theories of e-readiness and chose one that was most appropriate to inform the study. An appropriate tool should have the ability to assess or measure e-readiness in terms of infrastructure; connectivity; access; application of e-service; policy; privacy; security; human capacity and skills.

2.2.1 Readiness for Living in the Networked World

This tool was created by the Computer Systems Policy Project, a public policy advocacy group comprising of the chairpersons and chief executive officers of US information technology companies. It is a self assessment tool designed to help individuals and communities determine how prepared they are to participate in the internet world.
The tool measures the prevalence and integration of ICT in homes, schools, businesses, healthcare facilities and government offices, with additional focus on competition among access providers, speed of access and government policy.

The measurements are divided into five categories. Computer System Policy projects CSPP (2000), in terms of infrastructure; access; application and services; economy and enablers (policy, privacy, security and ubiquity). The above model had e-readiness parameters but it was not appropriate to the study in that it did not provide more information on how developing countries could benefit in using the model. It considered developed countries such as US which are already e-ready in terms of infrastructure and personnel.

2.2.2 The World Bank E-Readiness Tool

The World Bank E-Readiness tool provides a framework to support ICT in its client countries. The World Bank (2002) identifies six crucial areas where governments need to take action including: General competition and legal framework; access infrastructure; e-commerce, content and convergence; promoting application of ICT in government and private sector and human resource skills. This model had fewer components of e-ready and it was based mostly on client countries. The researcher found it unsuitable to the study since it did not provide comprehensive components on e-readiness.

2.2.3 International Records Management Trust E-Records Readiness Assessment Tool (IRMT)

The main purpose of the International Records Management Trust (IRMT) e-records readiness assessment tool is to establish what issues, concerns or realities affect
positively or negatively, the ability of a particular government or institution to manage e-records and ICT products (IRMT and World Bank, 2003). The International Records Management Trust is a UK based non profit organization established in 1989 to help build solutions for managing public sector records in developing countries.

It aims at providing consultancy services, training, education and research into records management across the world. It emphasises on the importance of managing records as a basis for protecting civil and human rights, reducing poverty, controlling corruption, strengthening democracy, promoting economic and social reform, and improving services to citizens and demonstrating accountability and transparency.

The IRMT E-Readiness tool uses a brief questionnaire that provides a risk assessment of e-readiness in government and business enterprises.

The tool provides an assessment of e-readiness in government at national and enterprise level that an agency could use to assess its strengths and weaknesses in being e-ready. It describes 12 components of e-records readiness as highlighted below:-

- Staff competencies in maintaining software and hardware
- Training programmes for information management staff
- Relevant ICT qualifications and experience
- Human resource strategy and ability of staff to maintain the machines
- Recognise the importance of well-managed information
- Availability of telecommunication infrastructure to support the growing volume of work
• Formal records management practices
• Provision for storage and retrieval of information
• Access to information through electronic means
• Information management policies and responsibilities
• Tools and procedures for information management
• Availability of information management products and technologies and internal and public awareness programme of information management.

In addition, the IRMT tool addresses the issue of published rules of access to information; supportive legal and regulatory framework for information management; legal framework for e-commerce activities and freedom of information; protection of privacy; adequacy of a nationwide ICT infrastructure and reliable electric power source. This model was relevant to the study in that it covered e-readiness, effectiveness of the infrastructure and access to archival information which the study was all about. The researcher therefore adopted the IRMT E-Readiness tool to inform the study as it provided comprehensive information on the 12 components that are both national and agency level to guide developing countries that are trying to embrace use of modern technologies in restructuring their e-records. The researcher found the model relevant to the study as it highlighted most of the issues and concerns that affected the KNADS such as inadequate infrastructure; lack of competent and skilled personnel; lack of ICT policies and E-readiness models to mention but a few.

2.3 E-Readiness Globally

Globally, countries that have attained significant levels of e-readiness are invariably situated in the developed world and include, among others, the United States, Canada, Singapore, Sweden, Japan, Finland, Britain, Norway and Australia (Consulting and
On the other hand, most of the countries of the developing world including those in Africa, it would seem are still striving to implement relevant infrastructures to attain reasonable levels of e-readiness to be able to integrate in the emerging global information economy (Docktor, 2004).

Bridge, (2005) opines that during the last decade, many leaders in government, business and social organizations around the globe have considered how best to harness the power of Information and Communication Technology (ICT) for development. Since 2004 the EIU and IBM Corporation (2004:3) have ranked countries for their readiness using both quantitative and qualitative criteria such as technology infrastructure, business environment, degree to which e-business is being adopted by consumers and companies, social and cultural conditions that influence internet usage, and the availability of services to support e-business.

The Economic Intelligence Unit (EIU) ranked 64 countries in the Western Europe in the top 25 for their e-readiness as follows: Denmark (1st), UK (2nd), Sweden (3rd), Norway (4th), Finland (5th), Netherlands (8th), Switzerland (10), Germany (13th), Ireland (16th), Belgium (17th), and France (18th). These countries were characterised as having thriving economies, sophisticated infrastructure, coordination between government and private sector, and increasing internet growth among business and consumers (Economic Intelligence Unit and International Business Management Corporation, 2004:8); E-Readiness in Europe has been boosted by the European Union, which launched a concerted and widespread campaign for the proliferation of the Internet throughout the continent, the promotion of e-commerce in both private
and public sector, and the widespread adoption of online information provision and electronic delivery of government service.

2.3.1 North and South America

In terms of international e-readiness ranking within the Americas in 2004 (Economic Intelligence Unit and International Business Management Corporation, 2004:12), the USA led, followed by Canada (10th), Chile (28th), Brazil (36th), Argentina (37th), Mexico (39th), Colombia (41st), Venezuela (44th), Peru (47th), and Ecuador (56th). Thus, with the USA leading the e-commerce revolution it is a good embodiment of the positive impact of an e-ready country.

2.3.2 Asia-Pacific

The Economic Intelligence Unit (EIU) and International Business Management (IBM) Corporation (2004:14) ranked the representation of e-readiness in the Asia-Pacific region as the next best after Western Europe. The higher rankings were Singapore (7th) and Hong Kong (9th), followed by Australia (12th), South Korea (14th), New Zealand (19th), Taiwan (20th) and Japan (25th). Most of these countries were characterised by broadband access, telecommunication deregulation and next generation infrastructure development.

2.3.3 The Middle East

While lagging infrastructure and poor business environment inhibited Middle Eastern markets, the EIU and IBM Corporation (2004) ranking did reveal certain bright spots,
such as technology development in Israel (22nd). Other countries that were ranked in the Middle East included Turkey (45th); Saudi Arabia (48th); and Iran (57th)

2.3.4 E-readiness in Africa

Africa generally features far behind the rest of the world with respect to its information society index rating, a measure of the free and rapid flow of information across the world. The index rating measures the information wealth of countries based on such variables as (Minton, 2003):

- Broadband household
- Mobile internet users
- Software sophistication, wireless telephone subscribers
- PC penetration and education levels

In general, Africa faces the problems of low level of ICT adoption by administrators and business, resistance to change, and poor existing infrastructure. According to Tankoano (2002:1-3), the networks in most African countries, particularly those for data transport, are mainly digitised telephone networks, but are poorly adapted for high rate data transfer.

The findings by ITU (2006) indicate that at the time, mobile telephone was the communication technology providing highest potential for development for third world countries. The spread of mobile telephone kept on experiencing exponential growth. For example, in the year 2000, there were 740 million subscriptions, and 5 years later, at the end of 2005, the number of subscribers had reached 2.25 billion, over one third of whom came from developing countries (ITU, 2006 P.44)
ITU (2006) therefore concluded that the history of telephone communication in Africa has been strongly characterised by the advent of the mobile telephone, the success for which also depends on the ability of mobile telephone operators to cover the territory with the mobile signal rapidly. Some African governments, including South Africa, Kenya and Uganda required mobile telephone operators to guarantee their populations a certain extent of signal converge as part of their licensing terms and conditions and/or to install community telephone services.

In sub-Saharan Africa, the EIU’s 2004 e-readiness ranking found South Africa to be the most e-ready country (32nd out of 64 countries surveyed). The other African countries ranked by the EIU and IBM Corporation were Egypt (51st); Nigeria (58th); and Algeria (61st).

2.3.5 E-Readiness in Kenya

The first e-readiness tools in Kenya were introduced by the British colonisers in the 19th century and were necessitated by their need to communicate with their government, friends, relatives and business partners in the United Kingdom.

A major milestone in the development of e-readiness in Kenya is the 1997 statement of government policy on telecommunication development to the year 2015. This policy statement was necessitated by the need of a new strategy to guide the operations of the sector as it transformed from monopoly to a liberalised market.
The 1990s also witnessed the great e-readiness revolution leading to the emergence of internet and mobile telephony in the Kenyan market. These two developments played a pivotal role in building the current ICT landscape in the country today. To ensure faster and affordable connectivity to the internet, the government also liberalised the supply and installation of Very Small Aperture terminal (VSAT). Even though there are indicators of Kenya being e-ready, adoption levels are much lower than in other countries in Africa such as South Africa, Botswana, Senegal and Togo.

Some of the factors hindering the widespread adoption of e-readiness in Kenya include inadequate infrastructure which include electricity and telephone services, high costs of acquiring, accessing and maintaining ICT services, illiteracy whereby effective ICT use requires certain skills that not many people in Kenya have, proximity of ICT services does not spread to all parts of the country and inadequate ICT legislation. Until 2006, there was no serious legislation to regulate and facilitate the ICT sector in Kenya. Recently the Kenya Communication (Amendment) Act 2008 was enacted but it is still bedevilled by controversies such as the minister of internal security being given power to confiscate broadcasting and telecommunication equipment which the media owners feels that the section 88 of Communication Act (1998) be amended to allow sanctions by either the court system or parliament. It was also noted that there is lack of championship in the country to market the benefits of e-readiness tools to the citizens. Finally socio-cultural factors which involve gender, age, social class, economic status biases that result in inaccessibility, lack of awareness and inability to afford ICT and IT services.
The Kenyan Government recognizes that Information and Communication Technology (ICTs) is the core of development and economic growth. The government is thus striving to provide an environment that can enable and sustain the development and utilization of ICT in the country. In the 2002-2008 development plans, the government spelled out its plan for developing an ICT literate population through retraining and skills building that will place special emphasis on the information sector and the current workforce. (Government of Kenya, 2002-2008).

Table: 2.3  E-Readiness’s Ranking Globally.

Figure 1: A report from the Economist Intelligence Unit (EIU) in association with the International Business Management (IBM) Institute for Business Value (2010 and beyond).

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<td>3.61</td>
<td>3.63</td>
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<td></td>
</tr>
</tbody>
</table>
Source: Information and Communication Technology for Development - 2006 to 2009. This information was last updated on 1st July 2011.

2.4 Forms of e-readiness Indicators (ICT)

There are many ICT tools in the market today. They include: computers, internet, intranets, world wide web (WWW), satellite systems, radios, televisions, photocopiers, fixed line telephones, scanners, digital cameras, pagers, hand held devices, personal electronic organisers, portable digital assistant (PDA), software solutions and systems, networked systems and fax systems.

2.5 Kenya National E-Readiness Policy

The Oxford English Dictionary defines policy as a course of action, adopted and pursued by a government, party, ruler and statesman. E-readiness policy generally covers three main areas: telecommunications (especially telephone communication), broadcasting (radio and TV) and the Internet.

The Kenya e-readiness policy has ten parts and two annexes which deal with specific issues and products of service. The first unnumbered part deals with the vision and mission of the policy which states that Kenya is a prosperous e-readiness driven
society and its mission is to improve the livelihood of Kenyans by ensuring availability, accessibility, reliability and affordable e-services to its citizen (Kwanya, 2009). The policy has 9 parts as follows:

Part 1- Gives the background information on which the policy is based.

Part 2- Focuses on the challenges facing ICT development in Kenya

Part 3 - It deals with information technology services and highlights the objectives and strategies.

Part 4 - It addresses policy objectives, targets and strategies for broadcasting

Part 5 – It sets objectives, strategies and targets for the telecommunication sector

Part 6 – It deals with the objectives and strategies for postal services

Part 7 – It deals with radio frequency spectrum which it describes as a scarce public resource that goes to waste if not used optimally.

Part 8 – Deals with access

Part 9 – Addresses institutional framework for the policy implementation.

2.6 E-Readiness at the Kenya National Archives and Documentation Service

E-Readiness is generally the investigation of an institutional level preparedness across several sectors which include dimensions of connectivity, business environment, consumer and business adoption, legal and regulatory environment, supporting services and social and cultural infrastructure.

The E-Readiness situation at the Kenya National Archives is at its infant stage. There are e-readiness indicators such as digitization of the archival information which is ongoing, use of online database during retrieval of the information, using the
microfilms readers to access and use the information, having a website where researchers can find information about their functions and core values. The internet extranet and intranet are used to transact business of the organization and the researchers use the internet to inquire the available information before they come.

The ICT section has tried to install computers in all the relevant sections but still the machines such as computers, microforms are not enough for use by the researchers. For instance the search room where the researchers carry out their research work has seven computers only.

The institution is currently using the Collaborative Development of Interactive Software Systems (CDISS) software which has served them well over the years but as technology advances, they should get integrated software for efficiency and effectiveness in service delivery. The National Archives needs to speed up the digitization process and upload their information materials on the internet for easy access. Secondly there is need to train the staff on e-readiness and provide them with necessary e-readiness tools for their operations.

Despite the above problems, there is some sign of e-readiness and willingness to go digital. The effort put in digitization of the files, conversion of the manual finding aids into online databases and use of microfilms to access and use archival information. Despite the financial and organizational constraints encountered, the Kenya National Archives has tried to embrace e-readiness for provision of electronic archival information.
2.7 Importance of E-Readiness

There are various reasons why there is increased impetus among countries in assessing their e-readiness statuses. Countries are striving to become inclusive global information societies where all persons without distinction are empowered to create, receive, share and utilise information for their economic, social, cultural and political development (Consulting and Audit Canada, 2004).

Moreover, in the current internet age, competitiveness of countries is being increasingly associated with their level of e-readiness (Bridge 2001; Economist Intelligence unit and IBM Corporation, 2004). Countries with high levels of e-readiness can use the internet to improve services and create new opportunities and have a competitive edge over those whose levels or e-readiness are low. For example, countries such as Denmark, United Kingdom, Sweden, Norway, Finland and the United States that are ranked top in e-readiness have also competitive business environments (Economist Intelligence unit and IBM Corporation 2004).

Understanding of a country’s e-readiness is essential for providing baseline information for planning and making comparisons across regions, countries and organizations. E-readiness can be used as information gathering mechanisms to assist governments when planning strategies for ICT integration and making improvements on specific e-readiness components (School Network, 2003) Rizk, 2004).

E-readiness is also useful in assisting governments to understand and identify key and relevant ICT based development opportunities, for example, to put ICT to effective
use, a country or an organization must be prepared in terms of infrastructure, the accessibility of ICT by the population or staff at large, and the effect of the legal and regulatory framework on ICT use, benchmarking progress and collaboration. Docker (2002), further observes that within an information society and information based economy, e-readiness enables governments to measure and achieve realistic e-government goals. Similarly, e-readiness development is important in that it can be used to catalyse action, improve global competitiveness and use limited resources wisely. E-readiness can help stakeholders make difficult decisions on how to use scarce resources and how to turn existing strengths into new revenues. Citing the World Bank, the SADC E-Readiness Task Force (2002:12) describes the value of e-readiness as based on the theory that countries with pervasive information infrastructure that use ICT applications possess advantages for sustained economic growth and social development.

2.8 Value of Archival Information

Cook (1999) asserts that the wider community and the general public recognise the symbolic value inherent in Archives. He continues by saying that, in order for the record to provide valuable research information, its value as evidence and its integrity, authenticity and meaning must be retained intact. Without proper management the uniqueness and irreplaceable evidence of the past may be lost forever. This shows how important the archives are to the society or the organization. Indeed they are the societal memory of any country. The archives should be well managed and available for access and use any time they are needed to provide evidence or for research and historical value.
Cook (1998) asserts that archives of the state are not just repositories of historical sources for researchers to use in understanding the past; they are also political manifestations of active agents of the dominant culture of society. Archives are not merely scholarly playgrounds for their staffs and researchers; they are also bastions of social memory and national identity.

These views no doubt agree with those of the International Council on Archives (1999) that archives are those records that are worthy of permanent retention because of their enduring value as evidence or for research. It emphasises that archives are an elite body of records. They provide a reliable and authentic knowledge base, enabling the past to be reconstructed and understood. Without archives, the past would remain largely unknown.

Millar (1997) points out that, typical users of information from archival sources include: government representatives requiring information about government activities, professional or academic researchers from a wide range of disciplines, amateur researchers, genealogists and members of the public. She highlights some of the issues that are documented in records which should be made accessible by archival repositories which include citizen’s rights and obligations, medical and health concerns, environmental issues, resources management issues, economic planning issues and inter-governmental politics.

In Kenya, the Kenya National Archives and Documentation Service (KNADS) which is the official custodian of public records and archives have in its custody various sources of information. These include: thousands of reports and files from
government ministries and departments, audio-visual materials, specialised periodicals and journals, research and technical reports, conference proceedings, official publications, dissertations and theses and reference materials. Users of this information include scholarly researchers from public and private Universities, professionals such as journalists, lawyers, civil servants and members of the general public.

2.9 Evolution of Information, Communication and Technologies (ICTs)

Over the past decade, developments in ICT’s have transformed the world into a digitally connected community, with the internet and the world wide web gaining wider acceptance and use in government, academia and commerce, to name but a few. This development in information telecommunications, computing and broadcasting has been welcomed as a way of improving communication and information flow between and among countries and communities. There is great potential for the internet and associated new technologies to grow in terms of users, devices, speed and bandwidth, content and application (Nelson, 2001).

According to video conferencing glossary (2007), technologies are defined as electronic tools and systems new to the field that have not yet been integrated or standardised. On the other hand Erlendoson (2005) defines technology as one where science, basic principles and theory are understood and at least some useful applications are recognised.
National archives and records service of South Africa (2006) asserts that records which are created by using the hardware and software technologies of today should remain available, usable, understandable and authentic over a long period of time. However, there is no guarantee that these formats will last into the future.

Proper attention to file format obsolescence requires an upfront commitment of time and money to ensure that records remain accessible. The idea of obsolescence can be solved by migrating records or archives in newer formats that guarantees access and use of the archives. It continues by saying that even though longevity of storage media is not the most important issue in the management of electronic records, it is necessary to know that records cannot be accessed if storage media cannot be read. Electronic records need to be migrated to new hardware and software platforms constantly to enable them to remain accessible.

Migration of data from one storage medium or software standard to another when changes in technology occur is essential. Youngman (2007) depicts that the rapid development of digital technologies, open courseware, open access publishing and emergence of web 2.0 are revolutionising scholarship, publishing and the storing and preservation of information. This transformation has been brought about by globalisation and evolution in technology, especially the internet.

2.10 Obstacles to Utilization of Archival Information

Archival institutions are constrained by a number of obstacles in their quest to provide information to various users. According to Mazikana (1999), the biggest obstacle to accessing information contained in the records and archives is not the existence of stringent access conditions and regulations, but the poor state in which many records
and archives are kept. The other obstacles include the absence of systems for their proper management, the disorganised manner in which they are stored and the lack of appropriate instruments and tools to facilitate access. Mazikana categories the obstacles into two: professional and technical problems.

2.11 Professional Problems

The professional problems that hinder utilization of archival materials include: researchers not being conversant with how to use archival information, inadequate finding aids, lack of recognition by some governments of the important role that archives play in national development, outdated archival legislation which provides limited access rights to archival materials, inadequate numbers of archivists who have received professional archival training, lack of adequate archival training schools, poor systems of archival arrangement and description, inadequate manpower to provide archive services, poor state in which archival materials are kept and finally lack of appropriate tools to facilitate storage and access.

2.12 Technical Problems

Various studies have been conducted in Africa and Europe to determine the technical problems that archival institutions face in the provision of information to end users. Mutiti (1999) observes that IT can be utilized in archival institutions to provide information services. The use of IT in storage and retrieval of information would facilitate faster access and use of available data.

Mazikana (1999) points out that IT can be utilized by archival institutions in the ESARBICA region to enhance access and use to archives. However, many archival
institutions in the region have not automated their operations with few exceptions that include Kenya and South Africa. Therefore, access to archival information is being hindered by the inability to take advantage of the tools and opportunities offered by the new technologies.

Technical problems identified include the following: non-utilization of information technology in the management and provision of archival information, difficulties in the identification of appropriate hardware and software, inadequate numbers of archivists trained in the use of computer technology, difficulties in the identification of software systems that are user friendly, costs associated with the purchase of hardware and software and finally the protection of data from unauthorised access and destruction caused by viruses.

2.13 Summary of the Chapter

The literature provided by different scholars discussed many aspects of e-readiness in different countries and organizations. From the literature given e-readiness have both positive and negative implications. There are many indicators that are used to determine e-readiness of the country, for example, infrastructure, bandwidth, connectivity, capacity building and ICT policy.

Despite the given literature none of them has discussed e-readiness at the Kenya National Archives and Documentation Service. This has left a gap that has to be filled by undertaking this research. This is important in that it will provide a comprehensive literature on the e-readiness status at Kenya National Archives and
Documentation Service (KNADS) which will be used by current and potential researchers.
CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter describes the research design used in the study, the target population, technique used in data collection, and how the collected data was analysed.

3.1 Research Design

A research design is thought of as the structure of research. It is the glue that holds all of the elements in research project together. Orodho (2003) defines it as the scheme, outline or plan that is used to generate answers to research problems. It constitutes the blueprint for the collection, measurement and analysis of data (Kothari, 2003). This study adopted descriptive design method of research. The researcher prepared interview questions for the identified sections and administered them one on one with the researchers and the Kenya National Archives and Documentation Service staff. This method was ideal because it provided accurate and timely data collection by enabling the researcher to collect in-depth data.

3.2 Study Population Sample and sample size

Target population for this study was the KNADS professional and technical staff and researchers. The researchers included historians, students, and archivists, journalists who visited the department to use the information (both Kenyan citizens and internationals researchers). The researcher spent several days at KNADS and interviewed the researchers as they visited the search-room. This was done until a saturation point was researched. The KNADS staff included the Director and one of
his Assistants in-charge of professional services; the head of search-room together with the senior staff involved in guiding the researchers on how to access archives and documents electronically; the senior ICT officer; the senior officer in-charge of Archives Administration and one officer in-charge of repository service.

This totalled to 9 members of staff at KNADS. The above population was ideal in that they were directly involved in providing services to researchers. No sampling was done considering the small population and the specialised nature of duties of the KNADS personnel to be interviewed. The researcher also interviewed 20 researchers whose number was determined at the saturation point at the end of data collection. The total numbers of the registered researchers in the year (2010) were 712 both foreign and local who visited and used the archival information at the Kenya National Archives and Documentation Service (KNADS).

However, given the random and unpredictable manner in which the researchers visited the KNADS, their number could not be pre-determined beforehand. Instead the researcher chose to interview them as per their availability at the search-room until a saturation point was researched.

**Table: 3.1 Study Population**

<table>
<thead>
<tr>
<th>Sections</th>
<th>Study Population</th>
<th>Sample size</th>
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</thead>
<tbody>
<tr>
<td>Administration</td>
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</tr>
<tr>
<td>Search Room</td>
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<tr>
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<tr>
<td>Repository</td>
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<td>2</td>
</tr>
<tr>
<td>Researchers</td>
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<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>
3.3 Data collection Methods

A variety of data collection tools and instruments are often used to collect data in the social sciences. The choice of a tool and instrument depends mainly on the attributes of the subjects, research topic, problem, question, objectives, design, expected data and results. This research used the interview method to collect data. The researcher prepared an interview schedule with structured questions such as: To what extent have KNADS embraced the use of ICTs in its operations and activities? How important is the use of ICTs in archival work and activities? What challenges has KNADS faced in the use of ICTs in its work? Just to mention but a few.

3.4 Pretesting of the instrument

The pilot testing was conducted using six (6) staffs within KNADS and a number of researchers. Respondents who participated in the pretesting of instruments were excluded from the main research. This group was picked through random sampling. The purpose of the pilot testing was to establish the validity and reliability of the research instrumentation and enhance face validity (Joppe 2000). From the pilot results reliability and validity was tested. It was noted that the terminologies used were not clear. The researcher used the feedback obtained to amend the data collection instruments making questions more precise and clearer.

3.4.1 Validity and Reliability

According to Mugenda and Mugenda, (2003), validity is the accuracy and meaningfulness of inferences, based on the research results. One of the main reasons
for conducting the pilot study was to ascertain the validity of the data collection tool. The study used both face and content validity to ascertain the validity of the interview schedule. Content validity draws an inference from test scores to a large domain of items similar to those on the test. Content validity is concerned with sample-population representativeness. (Gillham 2008) stated that the knowledge and skills covered by the test items should be representative to the larger domain of knowledge and skills.

3.5 Data Collection Procedures

Data collections for this study commenced after successful defence of the proposal. Upon successful defence, the researcher filled a form informing the National Council of Science and Technology (NCST) of the researcher’s intention to carry out the study. Once approved and on payment of the requisite fee, the researcher was issued with a research permit, authorizing this research. The researcher then booked appointments with the relevant offices at the KNADS. Once clearance was obtained, the researcher visited the institution to interview the members of staff and researchers.

3.6 Data Presentation, Analysis and Interpretation

Data collected from the study was qualitative. This means that the researcher analysed each question independently and sequentially as per the administered structured interview schedules as provided by the study objectives. The data collected was analysed qualitatively meaning that it was descriptive whereby each indicator was
analysed separately as given by the key informants and the respondents on the study topic.

3.7 Ethical Considerations

A number of ethical issues exist when carrying out research. They include but not limited to: - Justifying the research via analysis of the balance of costs; maintaining confidentiality at all times; being honest and open when dealing with the respondents and other researchers and treating all the researchers with respect. This research considered two important aspects such as maintaining confidentiality of the data collected and using it for the purpose of academic purpose only and also ensuring that no plagiarism was employed by acknowledging the sources of information used in the study and data collected from the respondents.

3.8 Summary of the Chapter

This chapter looked at the research methodology of the study which included the introduction of the chapter, research design, study population, data collection method, data collection procedures, data presentation, analysis and interpretation and finally ethical consideration.

The target population of this study comprised of 9 members of staff from KNADS and some researchers who visited and used the Archival information. The researchers included the historians, journalists, students and other information seekers. No sampling was done in this study due to the low population at the KNADS department and the researchers their number was determined at the end of data collection after the
researcher reaching a saturation point. Interview guide were administered to the respondents’ one on one and the researcher was able to collect in-depth information which was analysed using descriptive research design.
CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

4.0 Introduction

This chapter presents findings of the study, analysis and interpretation in line with the study objectives and research questions. This study used six objectives and six research questions to establish the state of e-readiness at the Kenya National Archives and Documentation Service.

The data was gathered exclusively using an interview guide as a research instrument. To enhance the quality of data obtained, structured questions were used whereby respondents expressed their views and opinions regarding the Kenya National Archives and Documentation Service e-readiness and its impact on provision of archival information to researchers.

4.1 Respondents Return Rate

The researcher targeted 9 interviewees from the KNADS; the 9 respondents targeted were successfully interviewed and researchers who visited and used archival information whose number was only determined after the researcher reaching a saturation point making the response rate of 65.5%. This response was in line with Mugenda and Mugenda (2003) who indicated that a response rate of 50% is adequate for analysis and 60% is good and 70% and above is excellent. This commendable response rate was made possible by the researcher visiting the Kenya National Archives and Documentation Service on daily basis for two consecutive weeks to interview the respondents.
The findings are as indicated below:

**Objective one: To evaluate e-readiness infrastructure at the Kenya National Archives and Documentation Service.**

Infrastructure refers to the basic physical and organizational structures needed to support the operations of any organization. The findings of the study showed that e-readiness infrastructure included Computer hardware and software, microforms, mobile and land lines, modems, bandwidth and internet connectivity and the departmental website among others.

Two respondents namely the Director of Kenya National Archives and Documentation Service and his Assistant indicated that the department had a website which was updated regularly and which provided information on procedures of accessing digital content on the archival holdings at the KNADS.

They noted that there were few computers installed in every office to assist in the processing of the archival materials. They further noted that the department had started digitizing their archival materials and the abstracts had been uploaded on the website for the researchers to use.

It was reported that about 12 million documents had already been converted into digital format. It was noted that the materials already converted included the microfilms and audio visual materials but the process was ongoing hoping that it would be completed by the end of 2012.
Search-room, Repository and ICT staff indicated that the department had a website which is uploaded with abstracts of archival materials that are currently accessed by the researchers and staff. On the digitization process they indicated that the process had been going on for the last three years. They reported that the digitization process was outsourced and it only operated when the funds were available to pay the contracted firm and the workers. It was noted that the services were outsourced since the department did not have the required machines and competent personnel to perform the duties.

The researchers on their part indicated that the abstracts were available and could be accessed but they needed more materials to be uploaded too. They also indicated that the computers were few and they were not able to access the materials at the time of need whenever the queue was long. They indicated that most of the time there were network problems which interfered with the processing of the data. They suggested that there was need for the department to procure more computers and install them in the search-room to enhance the provision of archival information.

**Objective two: To examine how archival information and documents are currently accessed at KNADS and the channels used.**

Regarding access to archival information and documents, the Director and his Assistant indicated that although the department had scanned and digitized 12 million documents into digital records, access to archival materials was still largely manual since the materials had not been uploaded on the internet. They also indicated that the researchers were able to access the abstracts of the materials electronically and the process of converting more materials to digital records was on going.
Other respondents from the search-room, repository and ICT sections indicated that the digitization process was ongoing and indicated that if the funds would be available the process should be completed by the end of 2012. They also reported that the researchers were able to access the available materials. It was noted that the process had taken long due to lack of funds to speed up the conversion and uploading of the materials on the website. They also confirmed that access to materials other than abstracts was still manual.

The researchers similarly reported that the materials were largely manual apart from the abstracts that could be accessed electronically. They described the situation as unsatisfactory since the abstracts provided only a summary of the content which was inadequate to conduct in-depth research.

The study found out that the Kenya National Archives and Documentation Service had a satisfactory e-readiness infrastructure in terms of availability of computers, scanning and digitizing of its holdings, but the materials were still accessed manually.

**Objective three: To determine the challenges currently experienced with regard to access to archival information and documents.**

The Director and his Assistant noted that there were various challenges which were experienced regarding access to archival materials. These included but were not limited to the following:- frequent power surge; low internet access affected by the networking of the machines; lack of funds to purchase enough computers and other gadgets; lack of adequate and trained personnel to operate the machines and provide services to the researchers; lack of sufficient space for installation of the machine and storage of the materials and long procurement process which delayed the process of purchasing and servicing the broken down machines.
Other respondents who included the ICT officers, repository and search-room personnel reported that the challenges faced included frequent power surge; slow internet services; inadequate computers; untrained and incompetent staff to assist in management of the electronic archival materials; lack of adequate storage space of the materials; dust from the environment which affected the machines and other pollutants such as the fumes from the motor vehicles and high staff turnover in search for greener pastures.

On the challenges experienced, the researchers reported that the computers were inadequate to serve them during the high season of research; that the internet services were very slow resulting in delays in accessing the materials; and that they faced the challenge of accessing the materials manually since most of the materials were yet to be uploaded on the internet. Other challenges reported were, frequent power surge; lack of trained, competent and adequate personnel to provide efficient and effective services to the researchers; insufficient spaces for researchers to carry out research; air and noise pollution from the Central Business District and insecurity from the hawkers and rioters in town.

**Objective four: To examine the extent to which modern technologies were deployed in the provision of archival information and their impact on access and use.**

Regarding the technologies used the Director and his Assistant reported that they had computers, microfilms, mobile and landline phones that were used to provide archival materials to the researchers. Computers were used to communicate via the internet, intranet, and extranet. The department was connected to the rest of the world via the internet. Intranet and extranet connected the researchers and users within and with neighbouring countries. These facilities had enabled the department to network with
other archival institutions national and internationally. The internet had enhanced the exchange of materials and services offered worldwide and were used as a marketing tool linking the department with others globally. Other than computers the materials such as newspaper cuttings were uploaded on the microfilms which stored materials for a period of 500 years without being destroyed. Archival materials are unique and valuable thus need to be stored well to serve citizens, customers, researchers and the country as a whole.

Mobile phones were used by the staff to share information with the researchers. Some researchers called the department to enquire on the materials available especially historical materials which were most referred to. Other respondents from the ICT, research-room and repository reported that the internet, intranet and extranet had been used regularly to market the services and materials at the KNADS. They also reported that e-mails were received from potential customers and researchers enquiring on the available materials.

Microfilms and artifacts played a major role in the provision of archival materials to the researchers. Meanwhile, mobile phones were used to connect the staff and researchers by enquiring on the materials and services offered and their schedule of operations. It was noted that the Kenya National Archives and Documentation Service website was among the most visited government websites to learn more about the freedom fighters and how the country got its independence.

The Director and his Assistant emphasized that modern technologies had improved the transfer of information globally to the researchers. It was noted that technologies provided real time information transfer within the country and worldwide reducing delays in accessing of materials. The Director reported that despite the technologies
providing instant services they required trained and competent personnel to operate since the materials were uploaded by the staff.

The search-room, ICT and repository respondents noted that although the Kenya National Archives and Documentation Service had computers, microfilms, mobile and landlines and the website to provide archival materials to researchers, these were inadequate to serve a large number of users. They suggested that there was need to purchase more computers and service the available but broken down machines to enhance accessibility of archival materials. They also reported that the staff needed to be trained on use of modern technologies since most of the institutions had not embraced the use of modern technologies in their provision of services. They reported that the department was facing challenges occasioned by the high rate of staff turnover; the department needed to employ more staff and improve on their working environment in terms of salaries, working space, and other fringe benefits. It was noted that only two staff, one from the ICT and the other one from the search room, had professional certificates in ICT but the rest had certificates of participation issued during in house training and seminars.

On professional competencies, researchers reported that they got assistance on how to access the materials on the electronic database by the staff. They reported that the personnel required professional training and an increase in numbers. The department also needed to purchase more computers in the search-room since there were only six computers and on average they received more than six researchers in a day.

**Objective five: To examine the role of Kenya National Archives and Documentation Service staff in provision of archival materials and their professional capacity and competencies to achieve efficiency and effectiveness.**
The Kenya National Archives and Documentation Service has four divisions namely:- Records Management Division; Archives Division; Administration Division and National Documentation Division. The Director and his Assistant reported that the role of the staff at the department was to provide various duties and functions to the public, researchers, and creators of records in the form of advisory services, and processing and preserving the materials for use. Others were to provide reference services and research facilities. It was noted that new researchers were required to register as members before they could access the materials they required. They were also required to pay 100 shillings for the diploma students, 200 shillings for university students and 500 shillings for non-Kenyans citizens. After the registration the researchers were then taken through the process of accessing the materials available on the manual and electronic databases.

The Director and the Assistant reported that most of their staff had basic knowledge but lacked professional skills on use of new technology. They, however, noted that there was need to train all the staff in use and management of new technology so as to provide efficient and effective information services to the users. The Director and his Assistant further added that the department had fewer staff. On competencies and capacity the staff working in various sections such as the search-room, ICT and repository needed training on how to use modern technologies to provide their services efficiently and effectively to researchers.

The search-room, repository and ICT staff at KNADS reported that most of them learned compute skills on the job but they did not possess professional qualifications. The staff that had professional certificates included one from the ICT section and another one from the search-room; others had certificates of participation in ICT training.
The researchers reported that they got assistance from the KNADS staff on use of electronic databases which confirmed that various cadres of staff had basic knowledge on use of new technologies.

The researchers further suggested that the department should recruit more personnel that are competent and trained in use of ICT. They also reported that there was need for the department to purchase adequate machines that would enable them to access information materials. They noted that this would reduce delays and enhance service delivery. Currently there are few computers to cope with high rate of researchers during the high season when there are both local and foreign researchers at the department.

The study also investigated the frequency at which the respondents visited the National Archives to access archival information. Most of the interviewees (researchers) reported that they visited the National Archives at least 3 times a week. Other interviewees reported that they visited National Archives when the research was in progress, twice per week, thrice per year and quite often. This was enough indication that the researchers used the information materials frequently.

The researcher also set out to determine the type of archival information that the researchers accessed at the Kenya National Archives and Documentation Service. From the findings, most of the interviewees indicated that they normally accessed information that related to historical information (biographical), constitutional matters, colonial records and reports. Additionally, interviewees reported that they accessed information relating to governance and statistical abstracts.

The researcher requested the interviewees (researchers) to indicate the means that they used to access information whether manually or electronically. According to the
responses of the interviewees, half of the researchers used both manual and electrical means to access information that they required while the rest (half) used either manual or electronic means to access material/information that they required.

The study also required the respondents to state whether they sought help when using electronic devices to access archival information. Fifteen (15) out of 19 indicated that they sought assistance from the archives attendants in order for them to access the information. The other Three (3) respondents indicated that they did not seek for any assistance whenever they visited the department. On whether Kenya National Archives and Documentation Service assisted the researchers, the study established that staff at KNADS provided assistance to researchers, in helping them to access information that they required with ease using the various technologies.

Further, the researcher requested the interviewees to indicate their favorite methods that they preferred to use in accessing archival information. From the findings, ten (10) respondents reported that they preferred using electronic means to access information while one (1) respondent reported that she desired to use manual methods when accessing archival information. Other eight (8) respondents noted that they preferred using both methods in accessing archival information.

The study also established that eighteen (18) researchers did not face any special challenges when using ICT in accessing archival information though only one (1) researcher faced some challenges such as tracing information that she sought to access. On the other hand, the Directors and his Assistants faced some challenges through incomplete networking, poor laid down procedures in the implementation of ICT programs, lack of trained personnel and poor management of information where data was scattered. This implied that there was poor management of documents both
in hard and soft copies. The researcher requested the respondents to express what they would wish Kenya National Archives and Documentation Service to do to enhance access of ICT in providing access to information. Interviewees (researchers) suggested that more computers should be added to reduce congestion of the people in the rooms; the researchers also suggested that all information should be kept in soft copy in all computers and made available on the KNADS website and that the materials should be updated frequently. Additionally the researchers suggested that documents should be managed in a way that could be easily located. From the findings, it was clear that KNADS had fewer computers that were inadequate to accommodate researchers who used the authority to access information that they required.

The study found that e-readiness at KNADS was in the infant stages in terms of infrastructure which included inadequate computers, frequent power surge and low networks. The study also established that KNADS was in the process of scanning and digitalizing of archival materials and about 12 million documents had already been digitalized in the last three years. The Director reported that abstracts of the materials were available on the website.

On the information that had been converted into digital format, the study established that microfilms and audio visual materials were the most digitalized. The study further established that the department had control measures such as availing only abstracts instead of whole information due to piracy and control of unauthorized access of the materials. The study further established that the department had no policy on e-readiness despite having some e-readiness indicators such as computers, internet, intranet, e-mail address and website.
Objective six: To propose a best-practice framework for the provision of archival information

PROPOSED IRMT E-READINESS DIAMOND SHAPED MODEL

This research therefore proposed the use of International Records Management Trust (IRMT) e-readiness model to be adopted in use and access of electronic records. This model was chosen by the researcher from many others because it was
comprehensive and addressed all aspects of e-readiness that were relevant to the study findings at KNADS. The International Records Management Trust is a UK based non-profit organization established in 1989 to help build solutions for managing public sector records in developing countries.

It aims at providing consultancy services, training, education and research into records management across the world. It emphasises on the importance of managing records as a basis for protecting civil and human rights, reducing poverty, controlling corruption, strengthening democracy, promoting economic and social reform, and improving services to citizens and demonstrating accountability and transparency.

The tool uses a brief questionnaire that provides a risk assessment of e-readiness in government and business enterprises. It measures levels of risk on a scale ranging from a score of 30-60 (high risk); 65-90 (moderate risk); and 95-120 (low risk). Although the tool has 12 components as list above on e-readiness, only 6 on the agency level were relevant to the findings of the study which established that; KNADS had inadequate infrastructure; it lacked an e-readiness model and ICT policy; it had insufficient space for storage of information materials and installation of e-readiness equipment; it lacked adequate and trained personnel in the use and maintenance of ICTs facilities and often experienced power surges.

12 COMPONENTS OF IRMT E-RECORDS READINESS

1. Legal Mandate for the Government-Wide Management of Public Records and Information

E-government services produce digital information, or ‘e-records’, that document government transactions and online activities. It is important that a central agency, such as the national archives, is designated to ensure that government-wide standards and practices are developed and implemented, that appropriate facilities are created
and that adequate resources are invested in managing official records in digital and other formats. If this central agency is to fulfil its responsibility for government-wide records and information management, its role must be mandated and recognised in law such as a national archives Act. Without such a legal mandate and formal authority, governments risk haphazard, inconsistent or negligent treatment of records. This, in turn, creates serious consequences for the accountability and trustworthiness of government actions as a whole.

2. Legal Framework for E-Commerce Activities

As more and more private sector and government activities are carried out online in electronic format, it is critical that evidence of these activities is available to protect the rights and responsibilities of all people involved. Under existing legislation, courts around the world have struggled with applying the traditional rules of evidence to e-records with inconsistent results. To facilitate dispute resolution and avoidance, governments need to adopt laws that establish ground rules for e-transactions, e-commerce and the use of e-signatures. E-commerce laws and regulations need to be modernised, clarified and harmonised so that public and private sectors alike can make the best possible technical decisions about how to produce and keep e-records across jurisdictions, with a minimum of uncertainty about how their legal rights will be affected.

3. Freedom of Information and Protection of Privacy Legislation

Freedom of information and protection of privacy legislation supports accountability, transparency and anti-corruption measures and is an important aspect of modern democracies. It gives citizens a mechanism for holding their governments accountable by requesting information about official activities, and it provides
assurance that personal information is only used for legitimate purposes. Without such legislation, digital information can be manipulated and misused for corrupt purposes by governments or bureaucrats. E-government can be introduced without implementing freedom of information and protection of privacy legislation, but the aim of empowering citizens will be undermined.

4. Government-Wide ICT Infrastructure and Capacity

A reliable and secure ICT infrastructure is essential for e-government initiatives to avoid the loss or corruption of e-records due to unstable electrical or telecommunications infrastructure, accidents, improper care and attention, or intentional damage. Employing competent and trained ICT staff as well as implementing good practices for network and system administration will provide the basic platform on which to build successful e-government and e-records programmes.

5. Government-Wide E-Records Management Standards and Guidelines

Governments that create e-records need to adopt or develop a government-wide standard setting out functional requirements for electronic records management. The European Commission’s Model Requirements for the Management of Electronic Records or the US Department of Defence’s DoD 5015.2 Standard and the United Kingdom National Archives’ functional requirements are good examples. Such standards and functional requirements are essential to ensure that government ICT systems consistently create, capture, organise, store, search, retrieve and preserve e-records and protects the integrity and trustworthiness of those e-records.

It is important to adopt a national minimum standard so that government systems are interoperable and share a common baseline of e-records functionality. Unless government agencies can demonstrate compliance with such standards, requirements
or guidelines, they will find it difficult to prove the authenticity and reliability of their e-records when required to do so in relation to freedom of information laws, arbitration of disputes or legal proceedings.


E-records created as a result of e-government activities must remain accessible and usable for as long as they are required for business or legal purposes or, in some cases, for historical purposes. Many e-records will need to be preserved long-term or permanently. However, the long-term preservation of electronic records is threatened by issues such as:

Media instability and deterioration; obsolescence and incompatibility of hardware and software; data formats or storage media and lack of metadata which makes it difficult to access the information or to use it meaningfully because of the lack of contextual information and lack of clearly assigned responsibilities and resources for long-term preservation.

To ensure the long-term preservation of e-records and to protect the digital memory of the nation, governments need to implement digital preservation strategies that anticipate ICT obsolescence and incompatibility. Typically this will involve planning for the migration of the digital information from one generation of technologies and formats to the next as well as implementing controls, procedures and responsibilities to monitor the accessibility, usability and authenticity of electronic records.

Digital preservation requires dedicated expertise, funding and technologies. Therefore, digital preservation strategies typically involve a collaborative element that pools resources between institutions and government agencies. Ideally these collaborations are driven by a national digital preservation strategy, such as the US National Digital Information Infrastructure and Preservation Program (NDIIPP).
Agency E-Records Readiness

7. Policies and Responsibilities for Records and Information Management

Within the wider context of public sector legislation and standards, each government agency that implements e-government services should establish internal policies and responsibilities for records and information management in a form appropriate to its internal organisational structure, culture and resources. This makes it easier for staff to apply external laws and standards to the institution’s specific business functions and processes.

8. Tools and Procedures for Records and Information Management

Records and information management policies must be supported by tools and procedures to ensure effective policy implementation. These include standard forms and templates, records classification schemes, records metadata and profile templates, records retention and disposition schedules, security and access classification schemes, search and retrieval indexes and taxonomies, repositories and equipment for the storage of physical and digital records (e.g. filing cabinets, file rooms, records centres and archives, digital storage media, digital storage systems and archives, etc), systems backup and recovery procedures, business continuity plans and vital records plans.

The central agency, such as the national archives, with responsibility for setting standards for records management, should be in a position to provide support in developing and applying appropriate tools and procedures. These tools need to be accompanied by procedure manuals describing when and how staff should fulfil their
responsibilities for creating, capturing, and classifying, storing, retrieving, tracking, disposing and preserving records.

9. E-Records Management Products and Technologies

Over the past decade a number of technologies and products for managing e-records and digital information have matured into a coherent industry and market. These may be called Records Management Application (RMA) software, Electronic Document and Records Management (EDRM) systems, Enterprise Content Management (ECM) systems or Information Lifecycle Management (ILM) systems. Vendors in this market usually provide e-records and e-content management solutions in collaboration with strategic partners. The technologies and products include scanning and imaging, forms management, document management, records management, web content management, email archiving, workflow and business process management, collaboration tools, compression, encryption, digital signature systems, data warehousing, backup and archiving systems, storage platform systems and storage media solutions. The technologies and product solutions in this market are intended to provide the enterprise wide capability to capture, classify, store, retrieve and track e-records, regardless of the format (paper, email, web pages, digital documents, database transactions, etc). It is important to be aware of the solutions available for integrating e-records management into e-government systems before an agency attempts to adapt unsuitable technologies for this purpose or to build new solutions from scratch.

10. Resources and Training for Records and Information Management Personnel

Although the agency may have established records and information management policies, tools and procedures, they will be ineffective unless they are supported by
qualified records management staff with adequate and regular financial support to implement and maintain them.

11. Internal and Public Awareness of Records and Information Management

A government agency may have adequate records and information management policies, procedures, tools and resources but these will be ineffective unless there is a commitment to implementing them. Managers and staff need to be aware of the importance of trustworthy and well-managed records for delivering effective government services and for protecting institutional accountability and integrity.

12. Compliance with Records and Information Management Policies and Procedures

As in any area of management, an agency’s records and information management infrastructure (people, procedures, tools and technologies) must be regularly monitored and evaluated to determine whether it is meeting requirements and expectations. Where problems or new challenges are identified, action is required.

This model was preferred by the researcher among others because it was comprehensive and addressed all aspects of e-readiness that were relevant to the study findings at KNADS. The six components relevant to the study findings are presented below:-
1. Storage and research space

The study revealed that KNADS had insufficient space for storage of archival information in e-formats and hard copies and reading space for researchers. Adequate space for an organization is very essential in their operations. It is always important to consider the availability of space before establishing an organization. IRMT component 4 on ICT infrastructure emphases that a reliable and secure ICT infrastructure is essential for e-government initiatives to avoid the loss or corruption of e-records due to unstable electrical or telecommunications infrastructure, accidents, improper care and attention, or intentional damage of the e-records. In areas whereby space is limited it is usually difficult to access, store, retrieve, preserve, and track the required records in time of need.

2. Policies and models

These are legal documents that are used by the organization in their day to day operation and they are essential in that they depict the existence of that particular organization. The study established that KNADS did not have an ICT policy and e-readiness model. Policies are guidelines that are used by the institutions in setting standards of their operations. Without clear written policies and models it becomes difficult for an organization to operate efficiently and effectively. Component 7 of
IRMT model notes that within the wider context of public sector legislation and standards, each government agency that implements e-government services should establish internal policies and responsibilities for records and information management in a form appropriate to its internal organisational structure, culture and resources. This makes it easier for staff to apply external laws and standards to the institution’s specific business functions and processes.

**3. Infrastructure**

These are basic physical and organizational structures needed for operation of a society or business enterprise. It includes telephone lines, computers, internet connectivity, bandwidth, website, electricity and cables. The study established that KNADS had inadequate infrastructure to provide access of e-records to researchers. Component 12 of IRMT emphasizes that, in any area of management, an agency’s records and information management infrastructure that is (people, procedures, tools and technologies) must be regularly monitored and evaluated to determine whether it is adequate and meeting requirements and expectations of the core functions of the organization. Where problems or new challenges are identified, action should be taken immediately.

**4. Staff competencies in maintaining hardware and software**

Staff establishment is one of the key components of an organization. No organization operates without the existence of competent and qualified personnel. Component 10 notes that, though the agency may have established records and information management policies, tools and procedures, they will be ineffective unless they are supported by qualified records management staff with adequate and regular financial support to implement and maintain them.

**5. Training and qualification of staff in use of ICT’s**
Information Communication and Technologies are modern technologies that have been introduced in the market. These facilities are technical and they require Staff who are trained and qualified in application and maintenance. Component 4 on staff training and competency states that, employing competent and trained ICT staff as well as implementing good practices for network and system administration will provide the basic platform on which to build successful e-government and e-records programmes.

6. Electric power

The study established that KNADS experienced frequent power surges. This has a negative implication in access of information since e-records are highly dependent on electric power supply. In cases where it is frequent it usually has fire related risks that may cause serious damage either to the organization or the machine or both. Managers and staff need to be aware of the importance of trustworthy and well-managed records for delivering effective government services and for protecting institutional accountability and integrity.

4.2 Relevance of the model to KNADS

The E-Records Readiness Tool has been designed to be used in conjunction with existing e-government readiness tools to permit a high-level assessment of the infrastructure and capacity building required to manage records and information. It aims at providing consultancy services, training, education and research into records management across the world. It emphasises on the importance of managing records as a basis for protecting civil and human rights, reducing poverty, controlling corruption, strengthening democracy, promoting economic and social reform, and improving services to citizens and demonstrating accountability and transparency.
KNADS requires this model to guide it in restructuring its e-readiness infrastructure, capacity building of personnel through training and education in their processes of converting e-records at the department. Where problems are identified that require further analysis, the Trust provides a free Records Management Capacity Assessment System (RMCAS) software tool to support a more in-depth evaluation and to identify relevant capacity building resources. The organization can conduct a national assessment on its own, but it is advisable that it should evaluate both the national level and the agency-level to be able to evaluate and identify the problem facing the department. KNADS being a government institution it is advisable that it evaluates its e-readiness basing on the Government ICT policy and customizes it to their functions. The study therefore finds IRMT e-readiness assessment tool being of help and recommends KNADS to adopt and use it as a benchmark in its e-readiness restructuring as the components in the model reflects the current situation at the department.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter provides a summary of the findings of the study in line with the aim, objectives and research questions. Also discussed is the conclusion, recommendations as well as suggestions for further research.

5.1 Summary of the findings

The study set out to investigate the e-readiness at KNADS and its impact on provision of archival information to researchers. The findings of the study are summarized below:-

5.1.1 E-readiness Infrastructure at KNADS

The study findings revealed that:-

- The department had a website, internet, intranet, extranet, e-mails, bandwidth, and telephone lines to provide information to the researchers.
- The department received e-mails and telephone calls from the researchers enquiring on their services locally and internationally.
- The computers were available but inadequate.
- The department lacked ICT policy and e-readiness model.
- The space for storage of the information materials and equipment was insufficient.
- The researchers experienced frequent power surge and low internet services due to low flow of bandwidth.
- There were newspaper cuttings that could be accessed using the microfilm reader.
• The KNADS is situated in the Central Business District, this made it unsuitable for research due to interference from the hawkers and rioters and fumes from motor vehicles.

5.1.2 Channels currently used to access information at KNADS

The study revealed that:-

• The department used both manual and electronic databases to provide information to the researchers

• Various channels were used to provide information including the website, internet, intranet, extranet, e-mails, telephone lines and microfilm readers.

• The electronic gadgets such as computers were inadequate to provide efficient and effective services to a larger number of researchers who visited the department during high season of research around September to December of every year.

• The conversion of information to digital was ongoing

• Most of the information was analog but only abstracts had been digitized.

5.1.3 The challenges experienced by the management, staff and researchers.

The study revealed that:-

• The department had inadequate ICT facilities to provide services effectively and efficiently to the researchers

• There was a long procurement process which led to delays in the processing of the requested items

• The department had equipment which was broken down but had not been serviced for a long time due to inadequate funds

• The department lacked funds to purchase equipment and to conduct training of staff

• There were frequent power surges and low internet services

• Only abstracts were available on the website
5.1.4 Level of adoption to modern technology in provision of information to the researchers.

Concerning the above the findings showed that:-

- Only abstracts were available on the website rather than the whole information.
- The scanning and digitizing of the materials was on going and about 12 million documents had been digitalized for the last three years.
- The department received e-mails and telephone calls from the researchers enquiring on the information available.
- That the department had installed computers that the researchers could use to access information.
- The department had uploaded newspaper cuttings on the microfilm to be accessed by researchers using microfilm readers.
- Use of modern technology had provided wider range of services to researchers; hence it was more effective and efficient.
- Manual systems took long to access and disseminate information to researchers.

5.1.5 Role of staff in provision of information, competency, adequacy and professionalism.

Among the findings of the study were the following:-

- That KNADS staff provided services to the researchers using manual and electronic databases
- That most of the staff had basic knowledge on use of ICT
- That only two staff had professional certificates in ICT and the rest had certificates of participation learned on job.
- That there was a high rate of staff turn over to greener pastures
- That most of the staff were incompetent and unqualified in use of ICT
• That the staff was inadequate and overwhelmed with work during the high season of research.

5.1.6 Existence of an e-readiness model at the KNADS

The study findings showed that:-

• The department did not have an existing e-readiness model and ICT policy to guide it in its operations
• The department had fewer staff and not compete in use of modern technology to provide services to researchers
• The department had inadequate e-readiness infrastructure to support its functions
• The department lacked sufficient space for storage of the information, space for researchers to sit and space for installation of modern gadgets such as computers
• The department had frequent power surges which interfered with the provision of information to researchers
• The information was basically manual and only abstracts were uploaded on the website
• The department was affected by long procurement processes which delayed the processing and purchasing of equipment to be used and serving of broken down machines.

5.2 Conclusion

The study set out to assess e-readiness at the KNADS and its impact on provision of archival information to researchers. The following challenges were noted as discussed below:-
The study established that KNADS had inadequate infrastructure to provide efficient and effective services to researchers. In most cases when infrastructure is inadequate provision of services is usually at stake. This has affected many government institutions such as Kenya Post Office and telecommunication which was unable to operate and forced them to surrender their services to mobile firms such as Airtel Kenya and Safaricom. This observation is in agreement with what Kamar and O’ngondo, (2007) reported on e-readiness that even though there were indicators of Kenya being e-ready, the adoption level was much lower than in other countries in African such as South Africa, Botswana, Senegal and Togo just to mention but a few. They highlighted some of the factors hindering adoption such as insufficient ICT infrastructure which included inadequate computers, low internet services, low bandwidth, insufficient power supply and poor connectivity of telephone lines, lack of awareness and inability to afford ICT and IT services. On the other hand Docker, (2002) also reported that although African countries are striving to implement relevant infrastructure to attain reasonable levels of e-readiness, the issue of infrastructure has affected a lot the adoption of modern technology due to the high cost involved in purchasing and installation.

Similarly, Tankoano (2002) also supported the idea that the African countries have poor existing infrastructure which are poorly adapted for high rate of data transfer. For instance the cables used are of poor quality and thus cannot be long lasting causing frequent network disconnection in most of the institutions around and KNADS happens to be one of those institutions. Inadequacy of infrastructure has made the department to largely provide its services manually instead of uploading all the information to the website to be accessed electronically due to lack of conversion machines and skilled personnel to perform the duties.
The study also established that due to inadequate e-readiness infrastructure the department had outsourced scanning and digitizing of the materials from another company. The reports provided in the study revealed that the digitization has taken so long to be completed and that answers why only abstracts could be accessed on-line. As we all know manual systems are usually slow in provision of information required at the right time since it requires patience on the part of the researcher to be able to get the right information from the staff. This usually happens because some materials could be out of shelf but there are no indication to show that due to misfiling and lack of proper classification of records. This statement is in line with Kamar and Ongo’ndo, (2007) reported that even though Kenya had e-readiness indicators, adoption level of modern technology is still very low. The adoption level of e-readiness in most government institutions is affected by lack of funds to purchase the required machines and maintenance of the available equipment. Modern technologies are highly vulnerable and they require proper care in use and maintenance to last longer and provide efficient and effective services to the users.

Another challenge that was established by the study was on personnel. The study revealed that the personnel were few and untrained to provide records using modern technologies. The findings established that only two staff, one from ICT section and another one from Search-room had professional ICT certificates while the rest had certificate of participation gotten from the internal seminars and workshops. The reports indicated that there was high rate of staff turnover to greener pastures. In cases where staff is inadequate, incompetent, and untrained the maintenance and use of the machines becomes a big challenge leading to malfunction of the machines. This is in support of what Wamukoya, (1999) Kemoni, (2002) and Mnjama, (2006) highlighted on some of the factors hindering use of modern technologies being,
incomplete networks; inadequate computers; frequent power surges; low internet services; insufficient space and incompetent and untrained personnel to manage the equipment. These issues were highlighted in the study as the challenges facing the management, staff and even researchers. The issue of staff was also reported by Mutiti and Muzikana (1999) saying that technical problems that affected the adoption and use of modern technology in archival institutions included having inadequate number of archivists trained in use of modern technology; inappropriate identification of hardware and software; difficulty in identification of software and hardware systems that are user friendly and costs involved in purchasing and installation of e-readiness gadgets.

5.3 Recommendations of the Study

5.3.1 Development of ICT Policy

The study established that KNADS did not have an ICT policy to guide the staff in dealing with ICT issues. The study there recommends that the KNADS management should development an ICT policy based on the government of Kenya ICT policy.

5.3.2 Development and Implementation of E-records Readiness Model

This study established that the KNADS did not have an e-records readiness model to be used in restructuring of its e-records and information that is being converted into digital formats. The study therefore recommends that KNADS should develop and implement the IRMT e-records readiness model as it provides components that are relevant to the findings of the study.

5.3.3 Creation of Space

The study revealed that KNADS had insufficient space for storage of e-records and reading space for the researcher. The study therefore recommends that the Director
KNADS should ensure that more e-readiness equipments are purchased and all the information are converted into digital format and uploaded on the website to create more space for researcher and records as e-records occupies less space as compared to traditional hard copy storage.

5.3.4 Installation of E-readiness Infrastructure

The study revealed that KNADS had inadequate infrastructure such as computers to enhance the provision of archival e-records to researchers. The study therefore recommends that KNADS should purchase enough e-gadgets such as computers, telephone lines, microforms, scanners, modems, printers, and ipads to fasten the provision of archival e-records to the researchers.

5.3.5 Staff Recruitment

The study established that KNADS had few staff to provide e-records to the researchers. The study therefore recommends that the Director KNADS should put up advertisement in the local newspapers to recruit trained and qualifications in ICTs use and management.

5.3.6 Staff Training

The study established that only two staff had ICT certificates and the rest were trained in house. The study therefore recommends that the Director KNADS should solicit for funds from the Ministry of African Heritage for staff training yearly and should be included in the procurement plan budgets.

5.3.7 Interconnectivity

80
The study established that KNADS experienced frequent power surges. This interferes with normal functioning and provision of e-records to the researchers. This power surges usually has fire related risks that could damage the whole system. The study therefore recommends that the management should purchase high quality optic cables for the connectivity of the gadgets and wiring of the building using experts and the systems should be regularly checked for quality services in provision of e-records.

5.4 Suggestions for Further Research

The study suggests that further research be done on the factors hindering adoption of e-readiness at Kenya National Archives and Documentation Service. This is important in that it will shed more light to the management to re-evaluate their strengths and weakness as far as e-readiness is concerned.

The study also suggests that a research be done on the reliability of information accessed in the Kenya National Archives and Documentation Service. Especially information on the migingo whether it has information on the right owner of the island since it has been an issue in the past few years and the members are not sure who is the owner.

The study also suggests that a research be done on security of archival information at its current location. Archival information as we all know is unique and it requires proper protection. The location where the department is situated calls for alarm for the security of the records it holds.

5.5 Summary of the Chapter

This study aimed at assessing the e-readiness at the KNADS and its impact on provision of archival information to researchers. This study therefore concludes that
the department has to digitise its collection and adopt e-readiness model and develop and ICT policy to guide it in its restructuring. This was in line with the data collected and analysed by the researcher.

The study made several recommendations that the KNADS had to adopt and implement. For the department to be e-ready and meet the high demand of researchers and users of its holding they must consider those recommendations and everything would be in order. Proper management of information is the key to every organization since information is power. Archives being unique and rare they need to be managed well to serve the potential customers and future generation.
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Appendix 1: Recommendation Letter
Appendix 2: Interview schedule for KNADS Director and his Assistant

1. To what extent have KNADS embraced the use of ICTs in its functions?

2. How important is the use of ICTs in archival activities?

3. What challenges has KNADS faced in the use of ICTs in its work?

4. How e-ready is KNADS in terms of infrastructure, bandwidth, staff skills and competencies?

5. To what extent are you able to provide reference services to users using modern technologies like computers?

6. The KNADS receives so many documents in paper form. What have you done to convert these into digital/electronic form?

7. Have you converted only the finding aids or also these archival documents?

8. If you have also converted these documents what thoughts have you given to copyright issues; access and control of document security issues?

9. Do you have a plan/policy to govern your digitization programme?
Appendix 3: Interview schedule for the KNADS ICT Officer.

1. What modern technologies is KNADS using in serving its work?
2. Where have these technologies been installed and what are they used for?
3. What challenges related to their use have you encountered?
4. What is your overall assessment of KNADS e-readiness in terms of infrastructure, staff skills and competencies?
5. What specific support does this unit provide to the KNADS department?
6. What security controls have you put in place to prevent unauthorised use of electronic archival documents?
Appendix 4: Interview schedule to the Researchers (Users)

1. How often do you visit the National Archives to access archival information?

2. Which type of archival information do you search for?

3. Do you access the materials manually or electronically or both?

4. Do you often need help in using electronic devices to access archival information?

5. Is this support often provided by KNADS staff?

6. What methods would you prefer to use in accessing archival information; manual or electronic?

7. Do you face any special challenges using ICTs to access archival information?

8. What would you like to see the KNADS do to enhance access of ICTs in providing access?
Appendix 5: Interview schedule for the KNADS senior Staffs (Search-room officers)

1. Does KNADS have a policy on e-readiness?

2. What type of researchers visit the search-room to access e-archives information?

3. What type of archival information is computerised?

4. What levels of education and skills do you have in provision of computerised information?

5. What are the challenges experienced in provision of computerised information at KNADS?

6. What would be possible solutions to the challenges?
Appendix 6: Interview schedule for the KNADS senior Staffs (Repository officers)

1. What type of archival information is digitized?

2. What levels of competence and skills do you have in digitization?

3. What are the criteria used in determining what information to be digitised?

4. How often is the digitization process?

5. What challenges are experienced in the digitization of the archival information?

6. What are possible solutions to the challenges?
Appendix 7: Pretest checklist

1. Has KNADS embraced the use of ICTs in its operations?

2. What is the value of using ICTs in archival activities?

3. What challenges if any has been experienced in the use of ICTs in the provision of archival information to researchers?

4. How e-ready is KNADS in terms of infrastructure, bandwidth, staff skills and competencies?

5. To what extent does the department provide reference services to users using modern technologies like computers?

6. The KNADS receives so many documents in paper form. What plans does the department have in digitizing those documents?
Appendix 8: E-Readiness’s ranking globally.

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This information was last updated on 1st July 2011.