FACTORS INFLUENCING ADOPTION OF ICT IN SERVICE DELIVERY BY COUNTY GOVERNMENTS IN KENYA: A CASE OF KITUI COUNTY.

JOSEPH MUTEMI MULWA

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DECLARATION

This project report is my original work and has not been presented to any university for academic award.

Sign: ---------- ----------

Joseph Mutemi Mulwa Date
L50/73514/2014

This project report has been submitted for examination with my approval as the University supervisor.

Sign---------- ----------

Dr. Angeline Mulwa Date
Resident Lecturer,
Garissa Extra-Mural Centre,
University of Nairobi

DEDICATION

I would like to dedicate this project report to my dear sisters Katui, Serah, brothers Roffee and Samuel for their constant encouragement even when I was about to give up, my mum Joyce Mundia for believing in education and motivating me to go on until the highest level that I can reach. I will remain forever grateful.

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ABBREVIATIONS AND ACRONYMS

BTS	-	Base Transceiver Station
CAK	-	Communications Authority of Kenya
CIC	-	Community Information Centres
CIPD	-	Computer Industry Development Potential
CRA	-	Commission on Revenue Allocation
EAC	-	East Africa Community
ICTs	-	Information and Communication Technology
IFMIS	-	Integrated Financial Management Information System
IPPD	-	Integrated Personnel and Pensions Database
IT	-	Information Technology
LAIFO MS	-	Local Authorities Integrated Financial and Operations Management System
MoICT	-	Ministry of Information Communication and Technology
OECD	-	Organization for Economic Co-operation Development
SPSS	-	Statistical Package of Social Sciences
UN	-	United Nations

ABSTRACT

Information and Communication Technology (ICT) has become an increasingly important factor in the development process of nations. While the benefits of ICT in a County cannot be disputed, there are several concerns about its success as well as the strategies to be adopted in implementation of systems in various counties. In regard to this the county has been devolved to enhance the effectiveness and efficiency to the service delivery to the citizen, it has remain a gap on the adoption of the ICT in service delivery of county government to increase the citizen satisfaction hence leading the researcher to have anxiety to establish the factors influencing adoption of ICT in service delivery of county government to improve the satisfaction of the citizens .The main objective of this study was to establish the factors influencing adoption of ICT in service delivery of county governments in Kenya with a focus on Kitui County. Specifically the study sought to; establish the extent to which human resource availability influences adoption of ICT in service delivery, examine the extent to which financial resource availability influences adoption of ICT in service delivery, establish the influence of personal characteristics of county management on adoption of ICT in service delivery, and to examine the extent to which infrastructure influences adoption of ICT in service delivery. The study adopted a descriptive research design. The target population for this study was residents and county government officials of Kitui County, Kenya. The study involved 64 sampled and randomly selected Kitui County Government officials, and 399 members of the public from 8 sub counties of Kitui. The study relied on data collected through questionnaires structured to meet the objectives of the study and an interview guide. Responses were tabulated, coded and processed by use of a computer Statistical Package for Social Science (SPSS) version 20.0 programme to analyze the data. It is believed the study will be significant to the County Governments, especially to decision makers involved in implementation of ICT strategies for their Counties. The study will provide additional information into the already existing body of literature regarding the ICT adoption in Kenya. The study found that there exists a positive association between; human resource availability and adoption of ICT in service delivery, financial resource availability and adoption of ICT in service delivery, personal characteristics of County management and adoption of ICT in service delivery, and influence of infrastructure and adoption of ICT in service delivery. This positive association suggests that when one factor increases, adoption of ICT in service delivery increases. The study recommends there is need for the County government officials to; educate the locals through road-trips to the villages and community information centres. The study also recommends that there is need for the government to; ensure they have enough funds to ensure they are ready for ICT projects, good practice; effective project, coordination and change management; and the government should improve ICT policies in Kenya.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

With the rapid advancements and increased use of Information and Communication Technologies (ICTs), electronic government (e-government) has gained increased attention from governments, policymakers and practitioners (Krishnan, 2014). Particularly, the advancements in ICTs have fundamentally altered the nature of public administration, to the extent that ICTs now underpin the basic functioning of most public programs and contribute to the most significant innovations in the delivery of public-sector services (Borins, 2001; Dada, 2006; and Holden, 2003). Examples of such services include (but not limited to) tax filing, identity management (including issuance and renewal of identity cards, driving licenses and passports), application for government jobs, obtaining of birth certificates/marriage licenses, renewal of driver licenses, application for high school grants, registering to vote, and in some cases casting of votes (Baqir and Iyer, 2010).

Beckinsale and Ram (2006) define ICT as 'any technology used to support information gathering, processing, distribution and use'. Gichoya (2005) and O'neill (2009) contend that with the emergence of information and communication technologies (ICTs), and e-Government, it is possible to improve efficiency and effectiveness of internal administration within government and to re-locate government service from government offices to locations closer to the citizens, examples of such locations include; cyber café', telecenters or a personal computer at home or office. While the benefits of ICT in government cannot be disputed, there are several

concerns about its success as well as the strategies to be adopted in implementation of systems in various countries (Gichoya, 2005).

The adoption of information and communications technology (ICT) and related practices in the commercial sectors, such as e-commerce, and the diffusion of the internet among the general population have resulted in a rising level of comfort and familiarity with the technologies in many contexts (e.g. communicating with people, electronic marketing, and academic activities) (Zakareya and Zahir, 2005). This has increased the expectations of citizens that public sector organisations will provide services similar to those in the commercial sector with the same effectiveness and efficiency. A survey by James (2000) reported that 60 per cent of respondents believed that government organisations would be more effective if citizens could use the internet to register their cars, pay parking tickets, fill out forms and apply for permits. About 50 per cent thought it would be a good idea to allow citizens to vote online and have government auctions on the internet.

In most developed countries, pervasive use of ICTs throughout the value chain has contributed to improved performance in firms, enabling them particularly to increase efficiency in combining capital and labour (Organization for Economic Co-operation Development-OECD, 2007). Information and communications technologies (ICT) have assumed a central position in the development agenda of most countries due to their critical role in facilitating socio-economic development (Mokaya and Njuguna, 2013). The contribution of ICT to enterprise development

has been recognized and many countries including Kenya have made great efforts in integrating ICT into the enterprise development agenda (Ouko, 2011).

Kenya has developed and enacted an ICT policy, with the enterprise sector being one of the targeted areas of intervention. ICT enhances efficiency, reduces costs, and broadens market reach, locally and globally; resulting in job creation, revenue generation and overall country competitiveness (Gichoya, 2005; Mutula, 2003; and Mokaya and Njuguna, 2013). A number of factors hinder the use of ICT by organizations and governments therefore, keep them away from enjoying the benefits of ICT, these factors include; weak knowledge base, resources constraints and affordability, accessibility and poor infrastructure (Baqir and Iyer, 2010; Wangari, 2011; Zakareya and Zahir, 2005).

ICT has become an increasingly important factor in the development process of nations (Alghamdi, Goodwin, and Rampersad, 2011). In order to implement effective and efficient ICT projects, the personnel must have the skills and the right attitudes across government (Wangari, 2011). In addition Wangari (2011) states that, the country must be e-ready according to United Nations global e-government survey, Kenya is ranked 124 out of 184 United Nation member countries (UN, 2010, p.5). The UN survey indicated that Kenya e-readiness index is 0.33, which is below the world average at 0.42. Although Kenya is more e-ready than 60 countries in the world, the poor ratings attributable to diminishing resources and lack of skilled labor underscore the need for Kenya to play a catch-up with the rest of the world. Lack of accountability and transparency undermines justice and fairness, gives rise to cynicism and mistrust of government,

and weakens government's institutions and structures. Hence, the opening up of the society through ICT projects such as e-government which create the ability to share information among citizens through ICTs' multiple channels, the availability of multiple platforms to report corruption, could strengthen government institutions and structures, thus, create positive social change in Kenya (Mokaya and Njuguna, 2013).

At the regional level, as Kenya aims at improving its trade of goods and services with fellow East Africa Community (EAC) members, ICT has a major role to play in regard to facilitating communication and engagements among the members (Ouko, 2011). There has been tremendous growth in the ICT sector particularly in the mobile sector, where by September 2013, had 31.3 million subscribers and a penetration of 76.9 per cent. At the same time, there were 25.1 million mobile money subscribers and an estimated 19.1 million Internet users with 47.1 per 100 inhabitants having access to Internet services (Communications Authority of Kenya-CAK, 2014). This is an indication that Kenyans are ready to embrace information and communication technology as long as it enhances their perceived quality of life.

1.1.1 County Governments' and Adoption of ICT Projects in Kenya

County Governments are taking ICT as an important tool for delivering services to citizens and businesses (Mokaya and Njuguna, 2013). There are few electronic governance systems, most focusing on revenue collection based on Local Authorities Integrated Financial and Operations Management System (LAIFO MS), the system used by the local authorities that preceded the creation of County Governments. Most Governments at this level have began developing County ICT Master Plans, which will need to be aligned to this National ICT Master Plan. At the

ministry level, all departments have been mandated to use Integrated Financial Management Information System (IFMIS) (ICT Authority of Kenya, 2014).

The ICT Authority is a State Corporation under the Ministry of Information Communication and Technology (MoICT) established in August 2013. The role of the ICT Authority in the county governance structure is to assist counties to achieve autonomy in their operations and service delivery to citizens through ICT. Some of the core functions of the county government include: promoting democratic and accountable exercise of power; fostering national unity by recognising diversity; giving power of self-government to the people; and enhancing the participation of people in exercise of power of the state and making decisions affecting them. In order to deliver these functions, the county governments need to leverage ICT in service delivery to the citizens. The counties will need to take initiatives around: ICT institutionalization; capacity building; ICT infrastructure development; and ICT systems deployment (ICT Authority of Kenya, 2014).

The first ICT Summit Series meeting took place from 4th to 6th September, 2013 in Nanyuki, Kenya, where the following were identified as priority projects in the deployment of ICT Authority in the counties: infrastructure development, implementation of "easy" Government services (Constitution specifies CICs), development of enabling legal frameworks, shared services for revenue generation and management, capacity building at the County level, National standards for quality assurance by ICT Authority; and sharing information and bargaining together on procurement. Each of the counties was challenged to come up with a comprehensive ICT strategy dovetailed with the National Broadband Strategy and National ICT Master-Plan.

The ICT strategy is to focus on how the county wants to promote ICT for accelerated development and universal services to citizens. For example: creation of shared and common infrastructure e.g. data centres and institutions that provide all government services to the citizens (CICs); business development which include: job creation, innovation and entrepreneurship; and providing better services to citizens (ICT Authority of Kenya, 2014).

According to the ICT Authority of Kenya (2014), all 47 County Governments are now in charge of overseeing some functions such as the provision of health care and maintenance of local roads which were previously the responsibility of Kenya's National Government. With the devolvement, ICT infrastructure and services are prerequisites to development in each County Government. Kenya's Commission on Revenue Allocation (CRA) which advices on revenue division between the National Government and the County Governments has already indicated that 84.5 percent of the revenues will be allocated to the National Government while 15 percent will be allocated to County Governments. The remaining 0.5 percent is designated as an equalization fund. Following this emerging changes, it is imperative that the Kenya National ICT Master Plan for 2013/14-2017/18 considers the role of ICT not only at the National level, but at the County level and how the infrastructure and services can be integrated to better serve all the citizens (ICT Authority of Kenya, 2014).

1.1.2 Overview of Kitui County

Kitui County is the sixth largest County in Kenya in terms of size and covers an area of 30,520 square kilometers. It is 11th in population size at 1,000,012 people based on 2009 census and has

steadily grown since. The county is diverse with some areas being semi-arid and mostly dry, while others are fairly arable. The main economic activity is subsistence farming of crops such as maize, beans, pigeon peas, sorghum, millet, cassava etc. Livestock keeping is also popular, especially goats and cattle. The county has small-scale industries for honey, gypsum and fruit processing. Kitui County comprises of 8 (Eight) administrative sub counties namely; Kitui Central, Kitui West, Kitui East, Kitui South, Kitui Rural, Mwingi Central, Mwingi West and Mwingi North. The county is further divided into 41 divisions, 152 locations and 404 sub locations (Kitui County Government, 2014).

Kitui County's ICT affairs fall under the County Ministry of Trade, Industry, ICT & Co-operatives Trade which is in charge of: developing ICT infrastructure and increasing internet connectivity in the County; collaborating with ICT stakeholders and service providers to ensuring there are improved services; increasing investment incentives to ICT service providers; collaborating with ICT providers to increase communication network through erection of additional Base Transceiver Station (BTS) in the county; increasing and deepening ICT adoption through ICT trainings in institutions, establishment of ICT villages in towns/wards in the county; formulating ICT county policy to regulate use and development of the sector; advocating for further reduction on import duty for ICT equipments made for training institutions and use in rural areas; developing website for the county government and networking all county and sub-county offices for information flow and public participation/feedback; adopting and promoting e-government, e-commerce and digitization of office and hospitals records; and formulating ICT regulatory laws to curb abuses (Kitui County Government, 2014).

1.2 Statement of the Problem

As governments worldwide adopt the usage of electronic information technology based systems, their applications and types of uses are proliferating (Krishna, 2014). These advanced information and communication technologies increasingly replace and/or change traditional methods of government information and services delivery. This has led to a number of claims such by Gichoya (2005); Mokaya and Njuguna (2013); and Wangari (2011) that ICT adoption and e-government improves the way government communicates and relates to citizens. Despite the efforts by the National Government to improve adoption of ICT projects at county level through ICT Authority, adoption of ICT projects at county level has not been implemented fully yet. The UN survey for 2010 indicated that Kenya e-readiness index was 0.33, which is below the world average at 0.42 (UN, 2010, p.5). According to UN (2010) the poor ratings attributable to diminishing resources and lack of skilled labor underscore the need for Kenya to play a catch-up with the rest of the world. The result of readiness towards ICT adoption tumbles down to the county governments. There is need for a study to find out the factual factors influencing county governments' readiness to adoption of ICT projects in Kenya which in turn reflect on the overall countries readiness.

A number of studies carried out on the ICT sector have been general or have failed to give detailed insights on factors influencing adoption of ICT in service delivery by county governments in Kenya. Gichoya (2005) studied the factors affecting the successful implementation of ICT projects in Government. The study found that vision and strategy and government support are considered important for success while lack of funds and poor

infrastructure are considered as major factors for failure. Mutula (2002) identified the ICT constraints as: high cost of access to telecommunications; Government policy towards ICT; under utilisation of existing technologies; limited indigenous base; digital illiteracy. Jain (2002) established a few more in addition to the above mentioned constraints: lack of skilled and trained manpower; inadequate IT exposure in schools; lack of a National IT policy; poor communication infrastructure; ignorance of IT benefits; expensive ICT equipment and resistance to change. Although the studies attained their objectives they did not delve into the factors influencing adoption of ICT in the management of county governments' in Kenya. There is a paucity of published work on factors influencing adoption of ICT in service delivery by county governments particularly in the context of developing countries in the dynamic African region and specifically in Kenya. This study intended to bridge this gap in knowledge that exists.

1.3 Purpose of the Study

The purpose of this study was to establish the factors influencing adoption of ICT in the service delivery by county governments in Kenya focusing on Kitui County, Kenya.

1.4 Objectives of the Study

The main objective of this study was to establish the factors influencing adoption of ICT in service delivery by county governments in Kenya with a focus on Kitui County. The study specifically sought;

i. To establish the extent to which human resource availability influences adoption of ICT in service delivery.

ii. To examine the extent to which financial resource availability influences adoption of ICT in service delivery.
iii. To establish the influence of personal characteristics of county management on adoption of ICT in service delivery.
iv. To examine the extent to which infrastructure influences adoption of ICT in service delivery.

1.5. Research Questions

The study sought to answer the following questions;

i. To what extent does human resource availability influence adoption of ICT in service delivery?
ii. How does financial resource availability influence adoption of ICT in service delivery?
iii. To what extent do personal characteristics of county managers influence adoption of ICT in service delivery?
iv. To what extent does infrastructure influence adoption of ICT in service delivery?

1.6 Hypotheses of the Study

This study was guided by the following 4 null hypotheses which were based on the objectives of the study in regard to the factors influencing adoption of ICT in service delivery in Kitui county.

Hypothesis H_1 : Human resource availability has no significant influence on adoption of ICT in service delivery by county government of Kitui.

Hypothesis H_2 : Financial resource availability has no significant influence on adoption of ICT in service delivery by county government of Kitui.

Hypothesis H_3 : Personal Characteristics of County managers have no significant influence on adoption of ICT in service delivery by county governments of Kitui.

Hypothesis H_4 : Infrastructure has no significant influence on adoption of ICT in service delivery by county governments of Kitui.

1.7 Significance of the Study

Findings from the study may be beneficial to the following:

The study will be significant to the County Governments, especially to decision makers involved in implementation of ICT strategies for their Counties. The County heads will use the findings as the base upon which to review the county readiness towards adoption of ICT projects.

The regulators and the policy makers can use the finding as reference for policy guidelines on development and management of ICT projects in the county. They will be able to use the findings of the study to formulate viable policy documents that effectively will cope with the barriers and challenges of ICT adoption and implementation in counties and in the larger country. Based on the findings, recommendations are made. If followed, these recommendations would be useful to administrators and policy makers in curbing challenges of ICT adoption and implementation.

The study will provide additional information into the already existing body of literature regarding the ICT adoption in Kenya. The findings of this study will enrich existing knowledge

and hence will be of interest to both researchers and academicians who seek to explore and carry out further investigations. It will provide basis for further research.

1.8 Limitations of the Study

Uncooperative respondents; some respondents were unwilling to fill the questionnaire and some failed to return or refused to be interviewed altogether. However this was minimized by creating rapport with the respondents and assuring them that the purpose of the research was only for academic purpose. The research handled the problem by carrying out an introduction letter from the university and assuring the respondent that the information would be used purely for academic purposes.

Since the study involved County governments, some respondents attempted to play politics when responding to the questions not giving the actual facts or honest opinions. However the research handled the problem by informing the respondents that their names won't be indicated in the study and also assuring the respondent that the information would be used purely for academic purposes hence they be as honest as possible.

1.9 Delimitation of the Study

Based that ICT is basic requirement to enhance the service delivery in all county government and the time frame of the research the researcher focused on only Kitui county. The study was made successful by easy access of respondents by researcher in gathering information regarding factors influencing adoption of ICT in service delivery of county government of Kitui. The study was

also grounded on a well researched literature review. The study focused on the factors influencing adoption of ICT in service delivery with a focus on Kitui County. The respondents were County government officials and members of the public who were sampled and supplied with questionnaires with the aim of getting their views regarding the subject matter of the study.

1.10 Assumptions of the Study

This study was based on the following assumptions:

First, it was assumed that adoption of ICT in service delivery is influenced by certain factors the extent to which this study sought to establish. Second, it was assumed that the selected respondents would cooperate and provide the required information honestly and objectively. Finally, it was assumed that the information obtained from this study would be very useful in highlighting the critical issues that needed to be addressed to improve county government adoption of ICT in service delivery in Kenya.

1.11 Definitions of significant terms

Adoption: the act or process of beginning to use something new or different.

Delivery the act of ensuring one has received the commodity or service rendered to him/her

E-government: the process of the government being able to offer its citizens services on-line for example through the internet or mobile phones.

Efficiency: the extent to which time, effort or cost is well used for the intended task or purpose. It is often used with the specific purpose of relaying the

capability of a specific application of effort to produce a specific outcome effectively with a minimum amount or quantity of waste, expense, or unnecessary effort.

ICT: technologies both traditional (for example radio, television, print, video) and newer technologies for example (internet virtual reality, distance education, mobile phones etc) that are intended to fulfill information processing and communication.

ICT infrastructure: Physical equipment/hardware and software that enables a network to function

Management: function that coordinates the efforts of people to accomplish goals and objectives by using available resources efficiently and effectively.

Readiness: The state of being fully prepared for ICT projects.

Service delivery: a set of principles, standards, policies and constraints used to guide the design, development, deployment, operation and retirement of services delivered by a service provider with a view to offering a consistent service experience to a specific user community

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1.12 Organization of the Study

This study comprises of the proposal which entails chapters one, two and three. This chapter has presented the background information, problem statement, purpose of the study, objectives of the study, research questions, significance of the study, scope of the study, limitations of the study

and definition of terms used. Chapter two provides a salient review of literature related to the study that illuminates work which has influenced this research and which justifies the need for extending the current research. Chapter three details the research methodology which will be employed in this research. Chapter four details the data analysis, interpretation presentation and discussions of the findings while Chapter five is the summary of findings, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature pertinent to the study as presented by various researchers, scholars' analysts and authors. The review of literature can lead to draw some significant conclusions and serve as a guide mark for this study. It also gives a fair chance to identify one gap that exists in the area of research. The section will cover the theoretical framework whereby factors influencing adoption of ICT in service delivery of county government will be discussed. The chapter will review empirical literature and the conceptual framework of variables will be discussed.

2.2 ICT in Government

Gichoya (2005), states that governments around the world have been engaged in the process of implementing a wide range of (ICT) applications. Countries have been classified by the United Nations according to their Computer Industry Development Potential (CIPD) as advanced or less developed (Mgaya, 1999). Advanced include, for example, the United States, Canada, West European countries and Japan; less developed include for example Argentina, Brazil, India, Mexico, Kenya and Bulgaria. For all countries, use of ICTs for government reinvention is increasing not only in investment but also in terms of visibility with a number of high-profile initiatives having been launched during the 1990s (Gichoya, 2005).

According to Heeks and Davies (2000) in Gichoya (2005), this reinvention has taken place especially in the advanced countries. Western countries are convinced that the information society will result in economic and social benefits (Audenhove 2000). Organization for Economic Cooperation and Development-OECD (2007), notes that information infrastructures are expected to stimulate economic growth, increase productivity, create jobs, and improve on the quality of life. Heeks (2002) observes that there is a big difference between ICT implementation and use between developed and developing countries.

Nonetheless, Westrup (2002) in Gichoya (2005) observes that similarities can also be expected. These similarities include funds which are never sufficient, bureaucracy and user needs. The difference is how problems are addressed in different countries. It can be argued that, with their adequate resources and advanced technology, the Western countries have an easier way of implementing ICT projects than DCs. Most developing countries are characterized by limited computer applications in the public sector, inadequate infrastructure and shortage of skilled manpower (Odedra, 1993). Odedra (1993) notes that this situation exists not merely due to lack of financial resources, but largely due to lack of coordination at different levels in making effective use of the technology. This uncoordinated efforts can only result in duplication if each department implements its own ICT projects without due regard to compatibility within the government.

2.2.1 ICT Implementation in Government of Kenya

According to Gichoya (2005), the Kenyan government over the last five years has initiated some capital investment towards set up and installation of ICT infrastructure. Funding for these investments is achieved through partnerships between the government and development partners. The foreign funding component constitutes the largest percentage of this investment in terms of technology. The government contribution is usually in the form of technical and support staff and facilities including buildings. So far, the Government Information Technology Investment and Management Framework is connecting all ministries to the Internet under the Executive Network (Limo, 2003). The government is also connecting the ministries to run integrated information systems for example the Integrated Financial Management Information System (IFMIS) and the Integrated Personnel and Pensions Database (IPPD).

Characteristics that define Kenyan ICT environment: most ICT projects are initially donor funded; some donations are made without prior consultation or carrying out a needs analysis by the recipient organization; operational/running costs are met by the government. Funding (capital and human resource requirements) ends with the project phase; the budgets for ICT are inadequate but rising; a lack of ICT policies and master plans to guide investment to the extent that, with a number donors funding ICT, there have been multiple investments for the same product due to lack of coordination; a focus on ICT applications that support traditional administrative and functional transactions rather than on effective information processing and distribution within and without government departments; and unstable ICT resources (Gichoya, 2005).

2.3 Factors influencing adoption of ICT in service delivery

This section presents the factors influencing adoption of ICT in service delivery in county government as presented by various authors and researchers.

2.3.1 Influence of human resource availability on adoption of ICT in service delivery

According to Okiy (2005), the importance of funding in providing excellent service cannot be over emphasized. It is the glue that holds the building, collections and staff together and allows attaining goals. Lack of funding in a project is certainly a disincentive, especially when adopting an innovation means that individuals must go through a learning curve and take on new responsibilities as a result of developing expertise (Sherry, 2003). Financial savings to governments through applying E-service will occur just from the medium-to-long term. Initial start-up costs will be high, in the short term, especially for parallel manual E-government system for any length of time. E-government is mainly related to lack of funding (Akomode, Taleb-Bendiab, Evangelidis, and Taylor, 2002). In the US, lacking of financial resources is a barrier to applying E-government for over half (57.1%) of city and county governments (ICMA, 2002). Funding was as the greatest obstacle to moving county government services to the online services by 70% of the respondents (NACO, 2000). Khanh (2011) in his research hypothesizes that funding affects E-Government adoption positively.

Researchers such as Okiy (2005) and Eyob (2004) argue that the importance of funding superior services cannot be over-accentuated. Funding facilitates the infrastructure (such as building, technology, human resources) that is needed to implement e-government and helps attain the

associated targets and milestones in terms of e-government implementation. Moreover, Gottipati (2002) argues that the way e-government projects are being reviewed and funded in the Arabian gulf is that such projects appear to seen as budget-based instead of seeing those projects as project-based budgets. E-government initiatives are long term projects, and therefore, they need long term financial support from the government (Heeks and Bailur, 2007; Kariuki, 2009). Furthermore, Eyob (2004) states that it is a major challenge, especially when the funding has to come from a government where political influence may interfere with decisions taken by high level officials

2.3.2 Influence of financial resource availability on adoption of ICT in service delivery

Joia (2007) points out technological determinists interpret technology in general and communications technologies, in particular, as the basis of changes in society. New technologies, according to this view, transform society at every level, including at institutional levels, social levels and individual levels. Technological determinism focuses on cause and effect relationships, and this focus makes it an explanatory and predictive theory. Theorists have argued that changes brought about by communication technologies, such as electronic government, have an important impact. They regard such changes as capable of transforming society and its institutions (Heeks and Bailur, 2007). Technology standards are an important requirement for e-government implementation (Joia, 2007). It is common for different government agencies to have different, incompatible hardware and software that may not work, integrate and interoperate together; this may lead to e-government implementation difficulties (Fedorowicz, Gelinas, Gogan, & Williams, 2009).

Teo, Wei, & Benbasat (2003) and Liang, Saraf, Hu, & Xue (2007) have considered institutional theory to study the affect of information technology on organisational business processes. The adoption of any new or innovative technology can often be explained by environmental influences that occur due to the various relationships of the organization (e.g. with suppliers, customers and employees) (Teo et al., 2003). According to Layne and Lee (2001), e-government implementation is expected to provide the access to citizens and other users from one single integrated gateway. Also, it requires participating government agencies to share their data to serve and achieve the citizens or e-government system users' needs. Therefore, information technology standards are needed to avoid any hardware and system barriers that would hinder the implementation of e-government systems. Nyrhinen (2006) argues that IT standards dictate how IT assets are to be acquired, managed, and utilized within the organization. Standards act as the glue that links the use of physical and intellectual IT assets. Therefore, to conclude, Nyrhinen (2006); Teo, et al. (2003); and Liang, et al. (2007) state that for a successful implementation of e-government to occur, IT standards should be considered as a main and effective factor from an e-government implementation perspective.

2.3.3 Influence of personal characteristics of county management on adoption of ICT service delivery

Budhiraja (2005) asserts that one of the success factors of the e-Governance projects is the personnel and human factors involved with the project. The knowledge, skill, attitude and mindset of these people are directly or indirectly affecting the result of the project. The county management characteristics include perceived benefits of ICT adoption; ICT literacy; level of

assertiveness in terms of business decision processes, perceived control over requirements for opportunities and resources as well as mistrust of ICT and lack of time (Zappala and Gray, 2006). County managers are viewed by Zappala and Gray (2006) and Beckinsale and Ram (2006) as 'more entrepreneurial, risk-takers, innovative and invariably creative' and are considered to be critical to the organizational readiness for ICT projects adoption. Furthermore, Manueli et al. (2007) suggested that business action is driven from the key decision-makers responsible for defining appropriate ICT goals and identifying critical ICT business needs and allocating financial resources to facilitate ICT adoption.

According to Gray (2006), governments planning to invest are also much more likely to provide training and development to their staff and managers. Gray (2006) further suggested that county managers with technical and vocational qualifications are more likely to engage in more innovation activities that include ICT adoption and development of e-business. In relation to business Beckinsale and Ram (2006) argued that small business owners with appropriate qualifications and ICT skills are more growth-oriented while those without these prerequisite characteristics are more likely to be growth averse. Further review of literature revealed that age and experience of managers are some of the distinctive characteristics which influence on ICT adoption (Manueli et al. 2007; Windrum and de Berranger, 2002). In terms of age, the second generation (youthful) business owners are more likely to be receptive to ICT than their first generation (elderly) counterparts (Beckinsale and Ram, 2006). Clearly, this view carries an assumption that 2nd and 3rd generation (youthful) business owners, born and educated in recent years characterized by advanced technologies and applications in daily activities, have greater

awareness of ICT than the 1st generation (elderly) counterparts. This argument by Beckinsale and Ram (2006) is applicable in organizations and governments.

2.3.4 Influence of infrastructure on adoption of ICT in service delivery

According to Singh, Das, and Joseph (2007), ICT infrastructure and governance facilitates the supply of e-government, and human capital stimulates the demand for ICT projects and e-government in a country. IT can help government public sectors to increase productivity and performance, improve policy-making, and provide better public services to the citizens (Akbulut, 2002). Moreover, there is an opportunity to derive productivity and business benefits from an intelligent IT infrastructure built on the pervasive computing paradigm. Furthermore, there is a need to protect investments already made in the existing IT infrastructure (Gupta and Moitra, 2004). Developing E-government system based on the IT infrastructure which has played as an bedrock role. Internet allows access to multiple services, as a foundation to support the digital broadcast systems to apply a global digital network. It is a government's responsibility to determine the quality and quantity of the telecommunications networks to handle the new traffic resulting from the use of these new services' level of service quality (Wanga, Caob, Leckiea and Zhang, 2004). Khanh (2011) in his research hypothesizes that IT infrastructure affects E-Government adoption positively.

According to Government of Kenya ICT policy (2005), inadequate ICT infrastructure has hampered provision of efficient and affordable ICT services in the country. There is therefore need to put more emphasis on provision of support infrastructure, such as, energy and roads;

supporting software development; promotion of local manufacture and assembly of ICT equipment and accessories; and provision of incentives for the provision of ICT infrastructure. Telecommunication infrastructure is a major issue that stands as an impediment to access of information, most people are not able to access digital information due to lack of the necessary infrastructure (GoK, 2007). This has left a bigger part of the population unable to access the digital information hence discouraging the adoption of ICT thus widening digital divide between developed and developing economies as well as between haves and have not, setting classes and levels of learning institutions rather than sink poverty levels and narrow economic gaps (ICT Authority of Kenya, 2014).

2.4 Empirical Literature

Purnomo and Lee (2010) investigated agricultural extension officers' perception of readiness and barriers towards implementation of ICT programme. The first finding reveals that they perceived that three out of the four factors of readiness as positive. The e-LRS assessment revealed that they perceived farmer readiness as lowest and thus considered it as a barrier. The second finding reveals that technological and organisational cultures were also seen as the main barriers of ICT programme implementation. The third findings show that they felt that the two demographic variables, regency and age, must also be considered when ICT programmes are implemented. The results of this study can provide guidance to the government or relevant organisations when considering readiness and barriers towards implementing ICT programmes.

Alghamdi, Goodwin, and Rampersad (2011) propose a framework comprising of seven dimensions of ICT readiness assessment for governments: e-government organizational ICT strategy, user access, e-government program, ICT architecture, business process and IS, ICT infrastructure, and human resource. The framework defines the organizational requirements that are necessary for e-government to resolve the delay of ICT readiness in public-sector organizations in developing countries. Gallego Álvarez *et al*. (2010) examine if the determining factors of municipal e-government are common to a worldwide municipal view. Findings indicate that the level of improvement in e-government is strongly linked to municipalities that have a significant level of technological development.

In his study Asogwa (2011) studies the level of preparedness of selected African governments in using ICTs to enhance the range and quality of services provided to the citizen, and determines the extent and continuous improvement efforts of African leaders towards the attainment of connected government. Findings indicate that many African governments have demonstrated their willingness to apply ICTs in their public administration, but a majority of them are at the emerging and enhanced stages. Bigdeli and de Cesare (2011) examine the barriers to e-government service delivery in the empirical context of Iran. Findings indicate that there are four barriers to e-government service delivery: (1) strategic; (2) technological; (3) policy; and (4) organizational.

Gichoya (2005) examines the factors affecting successful implementation of ICT projects in government in the empirical context of Kenya. Findings indicate that its key determinants are

finance, infrastructure, attitudes, coordination and strategy. Kottemann (2009) examines the effects of technological readiness, institutional readiness and fiscal readiness on the extent of online government services availability across countries. Findings indicate that significant effects are found in a path model with direct effects of technological readiness and institutional readiness on e-government, and indirect effects of fiscal readiness on e-government mediated through technological readiness.

Karunasena, Deng, and Singh (2011) developed a conceptual framework for evaluating the public value of e-government (in Sri Lanka) in terms of four dimensions namely, (1) delivery of public services; (2) achievement of outcomes; (3) development of trust; and (4) effectiveness of public organizations. Findings indicate that the public value of e-government in Sri Lanka is unsatisfactory in all the dimensions; lack of e-services, security threat to public information in public organizations, low adoption of ICTs in government and low uptake of available e-government initiatives are the key reasons for its poor performance. Macueve (2008) carried out a case study on the linkage between e-government initiatives and its ability to offer good governance. Though a case of the Land Management Information System in Mozambique, findings indicate that there exists a big gap between the discourse and practice of e-government for good governance in the context of developing countries.

Srivastava and Teo (2007) examine the facilitators of e-government development in a country. Findings highlight the significance of national technological (ICT infrastructure) and organizational (human capital) contexts for e-government development; findings also show that national environment (institutional and macroeconomic) is not a significant facilitator for e-

government development. Although these previous studies attained their objectives they did not delve into the factors influencing adoption of ICT in service delivery by county government of Kitui. There is a paucity of published work on factors influencing county governments' readiness to adopt ICT projects, particularly in the context of developing countries in the dynamic African region and specifically in Kenya. This study intends to bridge this gap in knowledge that exists.

2.5 Theoretical Literature

This section presents literature as presented by various authors on ICT in Government and ICT implementation in Government of Kenya. Scholars have developed various theories to explain the information technology adoption process. According to Yonazi (2010) the scholars have also presented multitudes of associated factors that influence the process. Examples of such theories include the theory of reasoned action (Ajzen & Fishbein, 1980), the theory of planned behaviour (Ajzen, 1985), diffusion of innovations (Rogers, 1995) and the technology acceptance model (Davis, 1989). Gilbert and Balestrine (2004) in Yonazi (2010) identify three approaches with sound theoretical and empirical bases for studying the adoption and diffusion of information systems. They include the Diffusion of Innovation (DOI) by Rogers (1995), the Technology Acceptance Model (TAM) by Davis (1989) and the application of existing frameworks to technology (Parasuraman, 1991). In 2003, Venkatesh, et al. proposed another model, the Unified Theory of Acceptance and Use of Technology (UTAUT), which has attracted the attention of many researchers.

In DOI, Rogers (2003) in Yonazi (2010) state that adoption is the acceptance of innovation taking place in five steps: knowledge, persuasion, decision, implementation and confirmation. Adopters can be categorized as innovators (2.5%), early adopters (13.5%), early majority (34%), late majority (34%), and laggards (16%). Social networks, such as media and interpersonal contacts, provide information and influence adoption opinion and decision over time. DOI suggests that perceived characteristics of an innovation, such as relative advantage, compatibility, complexity, triability and observability, determine the adoption or rejection of an innovation (Yonazi, 2010).

According to Bagozzi (2007) TAM a popular model in IS adoption research suggests that technology acceptance is determined by perceived usefulness and perceived ease of use of an innovation. In addition, perceived ease of use influences perceived usefulness. Perceived usefulness and perceived ease of use are both influenced by external variables such as system characteristics, organizational influences, and the nature of development process. Davis, Bagozi and Warshaw (1989) dropped attitude towards use in their refined TAM model. Davis (1989) posits that perceived usefulness refers to the degree to which a person believes that using a particular system would help to perform his/her job better, while perceived ease of use refers to the degree to which a person believes that using a particular system would be free of effort.

UTAUT is a theory used in IS research which was developed as an attempt to unify the constructs of the prominent competing IT acceptance models, including TAM. UTAUT conveys four key constructs, i.e. performance expectancy, effort expectancy, social influences and facilitating conditions (Venkatesh, et al., 2003). Performance expectancy relates to the degree to

which an individual perceives that using a new innovation can facilitate improving his/her performance. Effort expectancy measures the degree to which an individual perceives that the innovation will be easy to use. These two constructs are similar to those from TAM. Social influence refers to the degree to which an individual perceives that an important person around him/her feels that he/she should use the innovation. Finally, facilitating conditions measure the degree to which an individual perceives that organizational and technical infrastructure exists to support the use of the system (Yonazi, 2010).

Yonazi (2010) contends that E-Government theories borrow heavily from theories established in other domains which include: generic adoption theories (e.g. Rogers, 1995), information system theories (Davis, 1989), IT investment theories (Chircu & Hae-Dong Lee, 2003) and service trust and service quality theories (Tan, Benbasat & Cenfetelli, 2008). Several reasons account for this situation. First, researchers' backgrounds, philosophical orientations and intentions influence the input and output of their theoretical contributions (Bagozzi, 2008). Secondly, the limitations of each of the existing theories require complementation from other theories. For example, understanding the limitations of DOI and TAM, Dimitrova and Chen (2006) include user characteristics as key determinants for the adoption of e-Government. They observe that looking at innovations only may result in ignoring important user issues. As a result, their theory includes as well as extends the traditional propositions of DOI and TAM.

While most of the established theories were developed in the private sector, e-Government deals with the public sector. Scholl (2006) summarizes that the two contexts differ in (1)

environmental drivers and constraints, (2) organizational mandates and scope, and (3) internal processes, complexities and incentives. In the public sector, these issues are dominated by political ambition, multi stakeholder's involvement and deterministic decision-making structures, etc. Consequently, ICT implementation and success require different approaches and strategies. Therefore, researchers merge, synthesize and dismantle various theories in an attempt to fit the context, thus resulting in many and varied theories (Yonazi, 2010).

2.6 Conceptual Framework

Mugenda and Mugenda (2003), define a conceptual framework as a hypothesized model identifying the concepts under study and their relationships. In this framework, there are certain factors influencing adoption of ICT in service delivery by county governments in Kenya. These factors include but are not limited to financial resources, human resources, personal characteristics of county managers and infrastructure. National government and county policies are the moderating variables while politics, attitudes and culture are the intervening variables. Adoption of ICT in service delivery by county government of Kitui is the dependent variable that is affected by the independent variables. The study will be guided be guided by the conceptual framework as shown in Figure 1 relating the dependent and independent variables. Indicators of Adoption of ICT in service delivery by county government of Kitui are improved efficiency, increased revenue, better citizen service and county growth and developments.

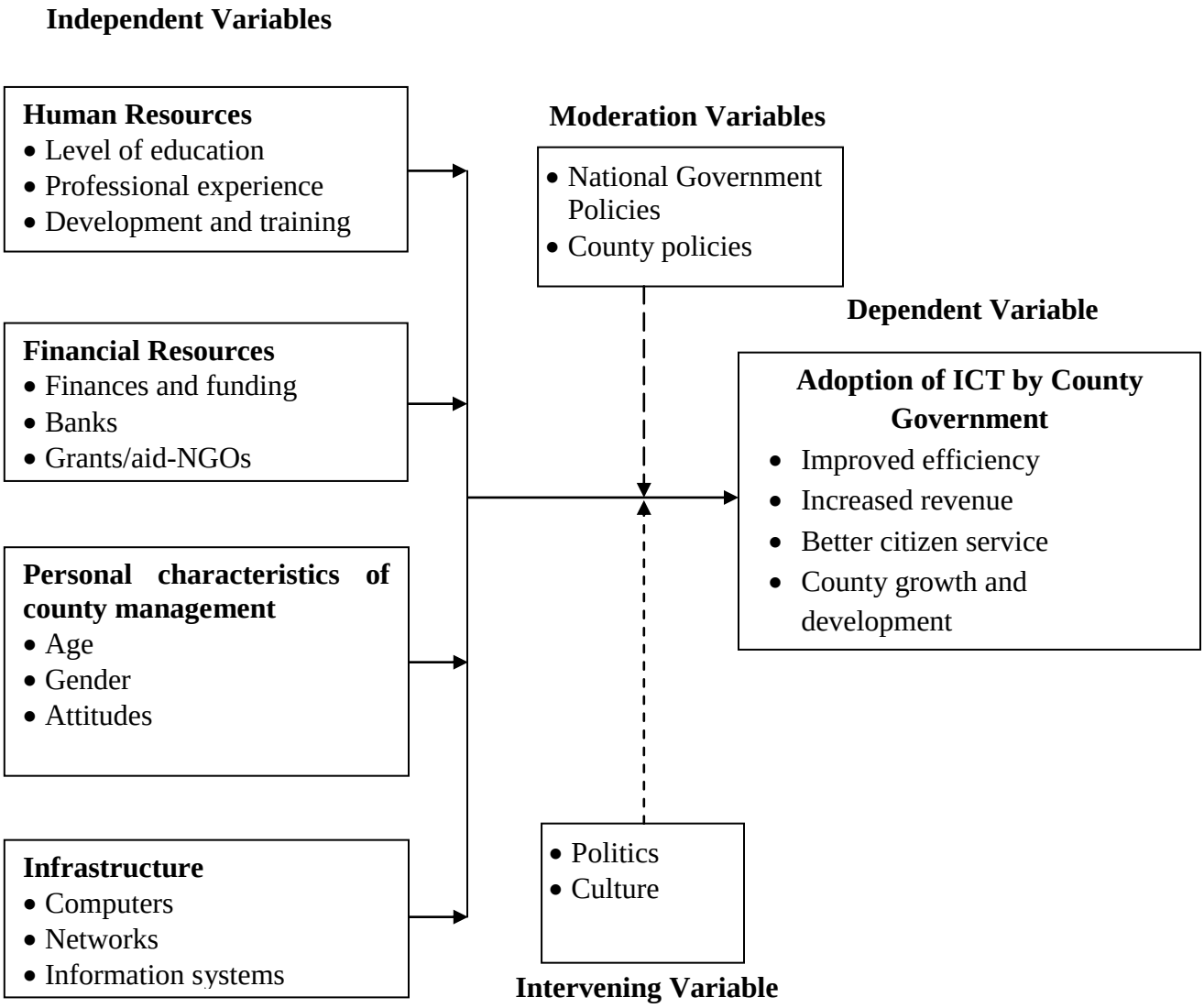

Figure 1: Conceptual Framework

Resource availability such as finances and funding, resource materials, and skilled personnel are factors influencing adoption of ICT in service delivery of county governments in Kenya. Researchers such as Okiy (2005) and Eyob (2004) argue that funding facilitates the infrastructure (such as building, technology, human resources) that is needed to implement e-government and

helps attain the associated targets and milestones in terms of e-government implementation. Development and training, current technology, and technology adoption are technology variables that influence county governments to adopt ICT in service delivery in Kenya. Technology standards are an important requirement for e-government implementation (Joia, 2007).

Age, gender, level of education, and professional experience are personal characteristics of county managers that influence adoption of ICT in service delivery. Budhiraja (2005) asserts that one of the success factors of the e-Governance projects is the personnel and human factors involved with the project. County managers are viewed by Zappala and Gray (2006) and Beckinsale and Ram (2006) as 'more entrepreneurial, risk-takers, innovative and invariably creative' and are considered to be critical to the organisational readiness for ICT projects adoption. ICT infrastructure and governance facilitates the supply of e-government, and human capital stimulates the demand for ICT projects and e-government in a country (Singh, Das, and Joseph, 2007).

2.7 Summary

This chapter has presented an overview of various aspects and issues related to this research work through the review of studies already carried out on ICT, but the previous scholars did not focus on the factors influencing adoption of ICT in service delivery hence gave the researcher a motive to establish those factor to enhance citizen satisfaction in the county government. In this chapter the empirical literature reviews related studies done by other scholars. The chapter has also presented theoretical literature and literature on factors influencing adoption of ICT in service

delivery by county governments as presented by various authors. The chapter also discussed the conceptual framework of variables for the study. Although a number of studies carried out on the ICT sector as reviewed in the literature review attained their objectives, they have been general or have failed to give detailed insights on factors influencing adoption of ICT in service delivery by county governments in Kenya. This study intended to bridge this gap in knowledge that exists.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methods to be employed by the study in collecting, assembling and analyzing data. The study adopts the following structure: research design, population and sample, population description, data collection methods, research procedures and data analysis and methods.

3.2 Research Design

The research design provides the bond that holds the research project together (Zikmund, 2003). The study adopted a descriptive research design. The descriptive research is a study designed to describe the characteristics of a phenomena (Kothari, 2007). It is used to obtain information concerning the current status of the phenomena and describe what exists with respect to variables or conditions in a situation. The types of a descriptive research design are a survey study which describes the status quo, a correlation study which investigates the relationship between variables, and developmental studies which seek to determine changes over time (Nachmias and Nachmias, 2007). Cross-sectional designs are conducted in the present time to examine what currently exists and they are fundamentally characterized by the fact that all data are collected at one time (Nachmias and Nachmias, 2007). According to Kothari (2007) correlation design is used when the investigator has reason to suspect a relationship between variables and can support this suspicion from literature or previous research.

Mugenda and Mugenda (2003) asserts the purpose of descriptive research is to determine and report the way things are and it helps in establishing the current status of the population under study. The design will be chosen for this study due to its ability to ensure minimization of bias and maximization of reliability of evidence collected. According to Sekaran (2009), a descriptive study is undertaken in order to ascertain and describe the characteristics of the variables of interest in a situation. The descriptive survey research attempts to collect data from members of a population, helps the researcher to get the descriptive existing phenomena by asking individuals about their perceptions, attitudes, behavior or values (Nachmias and Nachmias, 2007).

3.3 Target Population

According to Orodho (2003) a population is a well defined or set of people, services, elements, events, group of things or household that are being investigated. The target population for this study included: County government officials of Kitui County, and the residents of Kitui County. Kitui County government has 127 officials who are comprised of Governor, deputy Governor, 10 County ministers, County secretary, deputy County secretary, 56 Members of County Assembly (Mcas), 16 Sub-county admin/deputy and 40Ward administrators (Kitui County Government, 2015). The County of Kitui has a total population of 1,012,709 people (Kenya National Bureau of Statistics- KNBS, 2009) of which 531,427 people are females while 481,282 people are males.

3.4 Sample Size and Sampling Procedure

According to Kasomo (2006) a sample is described as representative if certain known percentage frequency distributions of elements' characteristics within the sample are similar to the

corresponding distributions within the whole population. Cooper and Schindler (2006) define sampling as the process of selecting a number of individuals for a study in such a way that the individuals selected represent the larger group from which they were selected. This section of the research methodology describes the sample size for the study and the sampling techniques that was applied to obtain the required sample. The sample indicates the total number of respondents to be selected from the target population.

3.4.1 Sample Size

The County Government of Kitui is structured into the Executive and the County Assembly. The Executive entails the Governor, Deputy Governor, County Ministers, County Secretary, Deputy County Secretary and Chief Officer. Under the executive the study involved either the Governor or his deputy, the county secretary of his deputy and finally the study selected one County Minister in charge of trade, industry, ICT and cooperatives to participate in the study. Kitui County comprises of 8 (Eight) administrative sub counties namely; Kitui Central, Kitui West, Kitui East, Kitui South, Kitui Rural, Mwingi Central, Mwingi West and Mwingi North (Kitui County Government, 2014). The 8 sub counties are represented by County Assembly at the Kitui County Government which is led by the county assembly speaker and his deputy. The study involved a sample of 64 Kitui County Government officials as indicated in Table 3.1.

Table 3.1: Study Sample Respondents (County government officials)

Kitui county government	**Actual**	**Percentage %**	**Sample**
Governor/deputy	2	50	1
County ministers	10	50	5
County secretary or deputy county secretary	2	50	1
Chief officer	1	50	1
Mcas	56	50	28
Sub-county admin/deputy	16	50	8
Ward administrators	40	50	20
Total	**127**	**50**	**64**

According to the 2009 census, the County of Kitui has a total population of 1,012,709 people of which 531,427 people are females while 481,282 people are males (Kenya National Bureau of Statistics- KNBS, 2009). In order to determine the size of the sample of public to be used, the Yamini Tara (1967) formula was used. It states that the desired sample size is a function of the target population and the maximum acceptable margin of error (also known as the sampling error) and it expressed mathematically thus:

$$n = \frac{N}{1+Ne^2}$$

Where:

n =sample size

N = target population

e =maximum acceptable margin of error (5%)

Thus in this study, the desired sample size given that the total population of the county is 1,012,709 was:

$$n = \frac{1{,}012{,}709}{1 + 1{,}012{,}709\ (0.05)^2}$$

Applying this to the above formula the minimum sample size obtained was 399. Since there are 8 (Eight) administrative sub counties it implied that 50 people per sub county were interviewed. This study involved 64 County government officials and 399 member of the public (residents of Kitui County). Salkind (2005) proposes a rule of the thumb for determining a sample size and says that a size of 30 to 500 is appropriate for most academic researches.

3.4.2 Sample Procedure

The study employed a combination of both probability and non-probability sampling techniques. The probability sampling technique was simple random sampling. Simple random sampling was applied in order to randomly pick the respondents who are the general public to participate in the study. This study randomly selected the respondents (members of public) from shopping centres and institutions such as NGO's, banks, schools (targeting teachers) and colleges. Once the places were randomly identified, systematic sampling procedure was used to collect data through questionnaires in the subsequent respondents within the cluster. The non-probability sampling technique for the study was purposive sampling. Purposive sampling was used to select Kitui County as the study area due to proximity to the researcher, time available for research and budgetary constraints. The county officials were randomly selected to participate in the study.

3.5 Research Instruments

This study collected both primary and secondary data using a number of methods so as to generate quantitative and qualitative data. Quantitative data was collected from the respondents using a questionnaire. The study used two questionnaires one for County government officials and one for the public that is the citizens. The questionnaires were divided into several sections; the first section delved into demographics data of the respondents while the rest of the sections looked into factors influencing adoption of ICT in service delivery by county governments' of Kitui presented as per the objectives of the study. An interview guide was used to collect data from top County officials who are the Governor or his deputy and the County Ministers. The interview guide formed the qualitative data for the study. Secondary data was gathered from literature from library materials, and various internet search engines.

3.6. Pretesting of the instrument

Prior to the research instruments being administered to the participants, pre-testing aimed at determining the validity and reliability of the research tools was carried out to ensure that the questions are applicable and clearly comprehensible.

3.6.1 Pilot Study

A pilot study was conducted in Kitui town. The research instrument was piloted on a small representative sample but the group was not be used in the actual study. It involved 10 random adults in Kitui town who were approached and interviewed. These respondents were not included in the actual research sample size. The pilot study enabled the researcher check whether the

items used are valid and reliable and also correct misunderstanding, check language level and eliminate ubiquity at the right time. The piloting also extracted comments from respondents which helped in the improving the instruments modifying and making clear the instructions given in order to avoid misinterpretation during the actual data collection.

3.6.2 Validity of the Research Instrument

According to Cohen, Manion and Morrison (2007) validity indicates whether the items measure what they are designed to measure. According to Kothari (2004) validity is the most critical criterion of sound measurement and indicates the degree to which an instrument measures what it purports to measure. This study adopted content validity which is the extent to which a measuring instrument provides adequate coverage of the topic under study. This study used content validity to examine whether the instruments answered the research questions. In order to establish content validity and make adjustments and/or additions to the research instruments, consultations and discussions with the supervisor was done.

3.6.3 Reliability of the Research Instrument

Kothari (2007) defines instrument reliability as the dependability, consistency or trustworthiness of a test. To ensure reliability the study employed self-administration approach of data collection and monitored the process to ensure that people outside the sample did not fill the questionnaires. In many cases, the questionnaire was filled while the researcher waits, thereby providing clarification where necessary whereas in cases where the questionnaires are to be left behind, the

respondents were asked to go through the questions and seek clarification where necessary, thus raising the reliability.

Cronbach's Coefficient Alpha approach recommended by Cohen, Manion and Morrison (2007) for its ability to give average split-half correlation for all possible ways of dividing the test into two parts will be used to measure internal consistency of the research instruments. Cronbach's Coefficient Alpha is a scale measurement tool appropriate in measuring internal consistency in descriptive survey researches. Computation of Cronbach's Alpha was done using SPSS for windows version 20.0 programme. The questionnaires are accepted at reliability indices of 0.50 and above. The questionnaires for this study were accepted at reliability indices of 0.78 and 0.69.

3.7 Data Collection Procedures

The researcher applied for a research permit from the Ministry of Higher Education, Science and Technology. In the meantime the researcher first obtained a transmittal letter from the University department offices to aid get authorization to collect data from the respondents. To ensure that the purpose of the study was achieved, the researcher interviewed one person at a time. The respondents were assured both in writing and verbally that the information obtained from them would be treated with ultimate confidentiality. They were therefore requested to provide the information truthfully and honestly. The study relied on data collected through a questionnaire structured to meet the objectives of the study.

The researcher explained the purpose of the study and offered guidance to the respondents on the way to fill in the questionnaire before administering the questionnaire. The questions were both open ended and closed ended. According to Mugenda and Mugenda (2003), questionnaires are commonly used to obtain important information about a population under study. Each item was developed to address specific themes of the study. The questionnaire was distributed to the selected members of the sample. The study used questionnaires because it is less costly and not time consuming. The study employed self-administration approach of data collection and monitor the process to ensure that people outside the sample did not fill the questionnaires. In many cases, the questionnaires were filled while the researcher waited, thereby providing clarification where necessary whereas in cases where the questionnaires are to be left behind, the respondents were asked to go through the questions and seek clarification where necessary. The researcher made subsequent visits and courtesy calls when necessary to remind the respondents to fill in the questionnaire thereby increasing the response rate. The researcher also booked appointments with top officials in the County Government of Kitui so as to interview them.

3.8 Data Analysis

Data collected from the completed questionnaires were summarized, coded, tabulated and checked for any errors and omissions. Frequency tables, percentages and means were used to present the findings. Responses in the questionnaires were processed by use of a computer Statistical Package for Social Science (SPSS) version 20.0 programme to analyze the data. The responses from the open-ended questions were listed to obtain proportions appropriately; the responses were then reported by descriptive narrative as qualitative analysis. Quantitative data

was analyzed using descriptive statistics such as averages, percentages, means and standard deviations.

Regression analysis was applied in all the cases where correlation was found to exist between the independent and dependent variables. It is important to carry out regression analysis so as to establish the extent of the influence exerted on the dependent variable by the independent variable. According to Brown (2007), regression analysis has two types of variables; one is dependent variable and the other is the independent variable. The intercept term in regression analysis shows the common variance explained by all the independent variables.

3.9 Operational Definition of Variables

Table 3.2 gives a summary of research objectives, variables of study, their indicators, level of measurement, tools of analysis for each objective and type of tool employed for each objective.

Table 3.2: Operational Definition of Variables

Research Objectives	Variable	Indicator	Measurement scale	Tools of Analysis	Analysis Techniques
To establish the extent to which human resource availability influences adoption of ICT in service delivery by County government of Kitui.	Human Resource availability	• Level of education • Skilled personnel Development and training	-Interval -Nominal	SPSS	Percentages, frequencies and measures of central tendency
To examine the extent to which financial resource availability influences adoption of ICT in service delivery by County government of Kitui.	Financial Resource availability	• Financing and funding • Banks • Grants/aid, NGO's	-Interval -Nominal	SPSS	Percentages, frequencies and Measures of central tendency
To establish the influence of personal characteristics of county management on adoption of ICT in service delivery by County government of Kitui	Personal characteristics of county management	• Age • Gender • Professional experience	-Interval -Nominal	SPSS	Measures of central tendency,mean, mode and median
To examine the extent to which infrastructure influences adoption of ICT in service delivery by County government of Kitui	Infrastructure	• Computers • Networks • Information systems	-Interval -Nominal	SPSS	Percentages, frequencies and measures of central tendency

3.10 Ethical considerations

Even as this research aims at adding to the knowledge of ICT, it upheld utmost confidentiality about the respondent. The study made certain that all respondents are given free will to participate and contribute voluntarily to the study. In addition, the study ensured that necessary research authorities were consulted and consent approved and appropriate explanations specified to the respondents before investigation of the study.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION / INTERPRETATION AND DISCUSSION OF FINDINGS

4.1 Introduction

In this chapter the key issues related to data presentation, analysis and interpretation have been discussed. This chapter is presented in three different sections looking into three major stakeholder of the ICT industry in Kitui County. The first section looks at responses from the County government officials of Kitui County, the second section looks at responses from the residents of Kitui County and the last section looks at responses from the Top County government officials of Kitui County. All three sections present study responses regarding factors influencing adoption of ICT in service delivery by county governments in Kenya with a focus on Kitui County. First, the research response rate has been computed and presented for each section. Secondly, the demographic characteristics of the participants have been described. Thirdly, the findings on the four key objective areas of the study have been presented and interpreted. The responses were analyzed using descriptive and inferential statistics. The data has been presented in Tables.

4.2 The Study Response Rate

Out of 64 questionnaires which had been administered to the respondents, 60 of them were returned for analysis. This translates to 93.8 percent return rate of the respondents. Overall, the response rate was considered very high and adequate for the study as shown in Table 4.1;

Table 4.1: Distribution of Response Rate

Response Rate	Frequency (F)	Percentage (%)
Returned	60	93.8
Not Returned	4	6.2
Issued	**64**	**100.0**

4.2.1 Demographic Characteristics of the Respondents

The respondents for the study were County government officials drawn from 8 (Eight) administrative sub counties across Kitui County who were of different categories. The categories were characterized by gender, age, academic achievement, duration lived in Kitui County, and being conversant with the term readiness to adopt ICT projects in Kitui County. The summary of the respondents distribution by their gender is given in Table 4.2

Table 4.2: Distribution of Respondents by Gender

Gender	Frequency (F)	Percentage (%)
Male	39	60.9
Female	21	39.1
Total	**60**	**100.0**

According to the data shown in Table 4.2, out of 60 respondents who participated in the study, 339 (60.9%) the majority were males while 21 (39.1%) were female. The findings give an indication that most of the respondents in Kitui County have majority males. The distribution of respondents by age is given in Table 4.3

Table 4.3: Distribution of County Officials' by Age

Age	**Frequency (F)**	**Percentage (%)**
Below 20 years	0	0.0
23-27 years	0	0.0
28-32 years	2	3.1
33-37 years	4	6.2
38-42 years	19	29.7
43-47 years	23	35.9
48-52 years	8	12.5
53 and above years	4	6.2
Total	**60**	**100.0**

It is evident from the data shown in Table 4.3 that, majority of the respondents (23) were aged 43-47 years, 19 (29.7%) were aged 38-42 years, 8 (12.5%) were aged 48-52 years. The Table further reveals that (4) and (4) fell under the age bracket of 33-37 years and 53 and above years respectively having a combined percentage of 12.4%. Only 2 (3.1%) of the respondents were aged 23-27 years. The distribution of the respondents by education level is given in Table 4.4

Table 4.4: Distribution of respondents by Education Level

Academic Achievements	Frequency (F)	Percentage (%)
Certificate	6	10.0
Diploma	8	13.3
Undergraduate	31	51.7
Masters	15	25.0
Total	**60**	**100.0**

The results in Table 4.4 indicate that, majority (31), of the respondents have attained an undergraduate degree, 15(25.0%) have attained a masters degree, 8 (13.3%) have attained a diploma level of education and 6 (10.0%) have attained a certificate degree. The findings point that majority of respondents in Kitui County are well educated for their jobs. The distribution of the respondents by how long they have been a resident of this county is given in Table 4.5.

Table 4.5: Length lived by respondent in Kitui County

Length lived by respondent in Kitui County	Frequency (F)	Percentage (%)
1-5 years	0	0.0
5-10 years	3	5.0
10-15 years	16	26.7
Over 15 years	41	68.3
Total	**60**	**100.0**

The findings on Table 4.5 shows that majority of respondents have lived in Kitui County for over 15 years 41 (68.3%), 16 (26.7%) for 10-15 years, and 3 (5.0%) have lived in Kitui County

for 5-10 years. The findings give an indication that the respondents are well long term residents of the County who are conversant with Kitui County's activities and people. The distribution of the staff by how conversant they are with the adoption of ICT in service delivery is given in Table 4.6.

Table 4.6: Conversant with adoption of ICT service delivery

Being conversant	Frequency (F)	Percentage (%)
Very Conversant	49	81.7
Partially conversant	10	16.6
No conversant	1	1.7
Total	**60**	**100.0**

The findings on Table 4.6 reveal that majority of respondents 49 (81.7) are very conversant with the adoption of ICT in the service delivery while 10 (16.6%) are partially conversant with the adoption of ICT in service delivery where as 1 (1.7%) is not conversant with the adoption of ICT in service delivery. The findings also give an indication that the County government officials are well conversant with the adoption of ICT in service delivery.

4.2.2 Influence of human resource availability on adoption of ICT in service delivery

This section looks at the influence of human resource availability on readiness to adopt ICT projects in Kitui County which is one of the objectives of the study. The influence of human resource availability on adoption of ICT in service delivery in Kitui County is given in Table 4.7

Table 4.7: Influence of human resource availability on adoption of ICT in service delivery

Human resource availability	Frequency (F)	Percentage (%)
Yes	60	100.0
No	0	0.0
Total	**60**	**100.0**

It is evident from the data shown in Table 4.7 that all respondents 60 (100.0%) who participated in the study agreed that human resource availability influences adoption of ICT in service delivery by county government of Kitui. The extent to which human resource availability influences adoption of ICT in service delivery by county government of Kitui is given in Table 4.8:

Table 4.8: Extent to which human resource availability influences adoption of ICT in service delivery

Extent of human resource availability	Frequency (F)	Percentage (%)
Large extent	20	33.3
Moderate extent	40	66.7
Small extent	0	0.0
No extent at all	0	0.0
Total	**60**	**100.0**

The findings on Table 4.8 illustrates that majority 40 (66.7%) of the respondents agreed that human resource availability influences the adoption of ICT in service delivery by county

government of Kitui to a moderate extent while 20 (33.3%) indicated to a large extent. The findings give an indication that human resource availability is critical in adoption of ICT in service delivery by County governments. The findings support Okiy (2005) who states that human resource availability is vital in any ICT project. According to Okiy (2005), the importance of human resource in providing excellent service cannot be over emphasized. Liang, et al. (2007), state that for a successful implementation of e-government to occur, IT standards should be considered as a main and effective factor from an e-government implementation perspective. The extent to which the following factors in regard to human resource availability influence on adoption of ICT in service delivery by County government of Kitui is given in Table 4.9.

Table 4.9: Extent human resource availability factors influence adoption of ICT in service delivery

	No extent at all (%)	**Little extent (%)**	**Moderate extent (%)**	**Great extent (%)**	**Very great extent (%)**
Level of education	0.0	0.0	10.0	10.0	80.0
Professional experience	0.0	0.0	12.5	12.5	75.0
Development and training	**0.0**	**0.0**	**25.0**	**62.5**	**12.5**

From Table 4.9 it is evident that, majority of the respondents agreed to a very great extent that level of education (80.0%) and professional experience (75.0%) are factors in regard to human resource availability influence adoption of ICT in service delivery by county government of

Kitui. The table further reveals that a large proportion of the respondents agreed to a great extent that development and training (62.5%) is a factor in regard to human resource availability influences adoption of ICT in service delivery by county government of Kitui, whereas Kitui being the 6th largest county out of 47 counties in Kenya it requires highly professions, skilled man power to enhance effective and efficient service delivery to the citizen of Kitui county at the lower levels.

4.2.3 Influence of financial resource availability on adoption of ICT in service delivery by County government of Kitui

This section looks at the influence of financial resource availability on adoption of ICT in service delivery by county government of Kitui which is another objective of the study. The influence of financial resource availability on adoption of ICT in service delivery by county government of Kitui is given in Table 4.10

Table 4.10: Influence of financial resource availability on adoption of ICT in service delivery

Financial resource availability	Frequency (F)	Percentage (%)
Yes	60	100.0
No	0	0.0
Total	**60**	**100.0**

From the Table 4.10 it is observed that, all the respondents 60 (100.0%) agreed that financial resource availability influences adoption of ICT in service delivery by county government of

Kitui. The extent to which financial resource availability influences the adoption of ICT in service delivery by county government of Kitui is given in Table 4.11

Table 4.11: Extent financial resource availability influences adoption of ICT in service delivery

Extent of financial resource availability	Frequency (F)	Percentage (%)
Large extent	30	50.0
Moderate extent	30	50.0
Small extent	0	0.0
No extent at all	0	0.0
Total	**60**	**100.0**

The findings on Table 4.11 shows that majority 60 of the respondents agreed to a large extent (30) and moderate extent (30) having a combined percentage of 100.0% that financial resource availability influences the adoption of ICT in service delivery by county government of Kitui. The findings are in line with researchers such as Okiy (2005) and Eyob (2004) who state that funding facilitates the infrastructure (such as building, technology, human resources) that is needed to implement e-government and helps attain the associated targets and milestones in terms of e-government implementation. The extent to which the following factors in regard to financial resource availability influences adoption of ICT in service delivery by county government of Kitui is given in Table 4.12

Table 4.12: Extent financial resource availability factors influences adoption of ICT in service delivery

	No extent at all (%)	Little extent (%)	Moderate extent (%)	Great extent (%)	Very great extent (%)
Finances and funding for county ICT projects	0.0	0.0	29.1	60.9	10.0
Lack of external financial support from NGOs and grants for ICT projects	0.0	0.0	12.5	75.0	12.5
Adoption of modern technology compatible with the National government systems	0.0	0.0	10.0	80.0	10.0

The results in Table 4.12 indicate that, majority of the respondents agreed to a great extent that adoption of modern technology compatible with the National government systems (80.0%), lack of external financial support from NGOs and grants for ICT projects (75.0%) and finances and funding for county ICT projects (60.9%) are factors in regard to financial resource availability influences adoption of ICT in service delivery by county government of Kitui. The findings in Table 4.12 reveal that adoption of modern technology compatible with the National government systems; Finances and funding for county ICT projects (29.1%) is a factor in regard to financial resource availability influence on adoption of ICT in service delivery by county government of Kitui. Kitui county being considered as a semi –arid region it requires high support from the national government in terms of finance and also other NGO's, Donors and well-wisher to fund most of the projects initiated in Kitui county and more so in terms of ICT that can enable easy accessibility and ensuring the effectiveness in service delivery in the county.

4.2.4 Influence of personal characteristics of county management on adoption of ICT service delivery by county government of Kitui

This section looks at the influence of personal characteristics of county management on adoption of ICT in service delivery by county government of Kitui which is a further objective of the study. The influence of personal characteristics of County management on adoption of ICT in service delivery by county government of Kitui is given in Table 4.13.

Table 4.13: Influence of personal characteristics of county management on adoption of ICT in service delivery

Personal characteristics	Frequency (F)	Percentage (%)
Yes	58	96.7
No	2	3.3
Total	**60**	**100.0**

The findings on Table 4.13 reveals that majority 58 (96.7%) of the respondents agreed that personal characteristics of county management influences adoption of ICT in service delivery by county government of Kitui while 2 (3.3%) disagreed. The findings are in line with Budhiraja (2005) who asserts that one of the success factors of the e-Governance projects is the personnel and human factors involved with the project. The knowledge, skill, attitude and mindset of these people are directly or indirectly affecting the result of the project. Manueli et al. (2007) suggested that business action is driven from the key decision-makers responsible for defining appropriate ICT goals and identifying critical ICT business needs and allocating financial resources to facilitate ICT adoption. The extent to which personal characteristics of county

management influence adoption of ICT in service delivery by county government of Kitui is given in Table 4.14

Table 4.14: Extent personal characteristics of county management influence adoption of ICT in service delivery

Personal characteristics	Frequency (F)	Percentage (%)
Large extent	10	16.7
Moderate extent	46	76.7
Small extent	4	6.6
No extent at all	0	0.0
Total	**60**	**100.0**

The results in Table 4.14 indicate that, majority 46 (76.7%) of the respondents indicated that personal characteristics of county management influences adoption of ICT in service delivery by county government of Kitui to a moderate extent. The findings further indicate that 10 of the respondents indicated that personal characteristics of county management influences adoption of ICT in service delivery by county government of Kitui to a large extent (16.7%) and 4 (6.6%) to a small extent. The indicators of personal characteristics of county management which influence the adoption of ICT in service delivery by county government of Kitui is given in Table 4.15

Table 4.15: Personal characteristics of county management influencing adoption of ICT in service delivery

	No extent at all (%)	Little extent (%)	Moderate extent (%)	Great extent (%)	Very great extent (%)
County management's age	0.0	0.0	40.0	50.0	10.0
County management's gender	0.0	0.0	10.0	13.3	76.7
County management professional experience	0.0	0.0	0.0	3.3	96.7

The results in Table 4.15 indicate that, majority of the respondents agreed to a very great extent that County management professional experience (96.7%) and County management's gender (76.7%) are factors in regard to personal characteristics of county management influences adoption of ICT in service delivery by county government of Kitui. The table further reveals that a large proportion of the respondents agreed to a great extent that; County management's age (50.0%) is a factor in regard to personal characteristics of county management influences adoption of ICT in service delivery by county government of Kitui. Most of resident of Kitui county are sparsely settled, only that nearby small markets hence due to this they have different personal characteristics that influence the adoption of ICT and also on the side of political influences on the issues of using the ICT and the negative view of the ICT with the resident on affecting their life styles.

4.2.5 Influence of Infrastructure on adoption of ICT in service delivery

The influence of Infrastructure on the adoption of ICT in service delivery is given in Table 4.16

Table 4.16: Influence of Infrastructure on adoption of ICT in service delivery

Infrastructure on adoption of ICT projects	Frequency (F)	Percentage (%)
Yes	60	100.0
No	0	0.0
Total	**60**	**100.0**

The findings on Table 4.16 indicate that all the respondents 60 (100.0%) indicated that Infrastructure influences adoption of ICT in service delivery by county government of Kitui. The study findings are in line with Singh and Das (2007) who asserts that ICT infrastructure and governance facilitates the supply of e-government, and human capital stimulates the demand for ICT projects and e-government in a country. IT can help government public sectors to increase productivity and performance, improve policy-making, and provide better public services to the citizens (Akbulut, 2002). The extent to which infrastructure influences adoption of ICT in service delivery by county government of Kitui is given in Table 4.17.

Table 4.17: Extent infrastructure influences adoption of ICT in service delivery

Infrastructure	Frequency (F)	Percentage (%)
Large extent	30	50.0
Moderate extent	30	50.0
Small extent	0	0.0
No extent at all	0	0.0
Total	**60**	**100.0**

The findings in Table 4.17 indicate that all 60 respondents agreed to a large extent (30) and to a moderate extent (30) having a combined percentage of 100.0%, that Infrastructure influences adoption of ICT in service delivery by county government of Kitui. The extent to which the following factors in regard to infrastructure influences adoption of ICT in service delivery by county government of Kitui is given in Table 4.18

Table 4.18: Extent to which infrastructure influences adoption of ICT in service delivery

	No extent at all (%)	Little extent (%)	Moderate extent (%)	Great extent (%)	Very great extent (%)
Availability and access of computers and hardware	0.0	0.0	10.0	80.0	10.0
Availability of networks both internal and external with National government	0.0	0.0	12.5	12.5	75.0
Availability of reliable and secure information systems	0.0	0.0	0.0	9.6	90.4

The results in Table 4.18 indicate that, majority of the respondents agreed to a very great extent that Availability of reliable and secure information systems (90.4%) and Availability of networks both internal and external with National government (75.0%) are factors in regard to Infrastructure influences adoption of ICT in service delivery by county government of Kitui. The table further reveals that a large proportion of the respondents agreed to a great extent that Availability and access of computers and hardware (80.0%) is a factor in regard to infrastructure influences adoption of ICT in service delivery by county government of Kitui. Due to low

population and widely spread of the home stead of Kitui county it has influenced the development of the infrastructure, which includes the poor road networks, electricity hence hindering the installation of computers and networks for the accessing of information for the residents of Kitui county in the interior parts. The extent to which the following are challenges facing county government adoption of ICT in service delivery by county government of Kitui is given in Table 4.19

Table 4.19: Challenges facing county governments' readiness to adopt ICT in service delivery

Challenges	No extent at all (%)	Little extent (%)	Moderate extent (%)	Great extent (%)	Very great extent (%)
Inadequate and poor training on ICT use	0.0	0.0	0.0	6.3	93.7
Inadequate ICT tools in county government offices	0.0	0.0	0.0	9.6	90.4
Lack of technical support	0.0	0.0	0.0	12.5	87.5
Limited access to internet	0.0	0.0	0.0	20.0	80.0
Negative attitude towards computers in county government offices	0.0	0.0	12.5	12.5	75.0
Limited support by county management and National Government	0.0	0.0	0.0	62.5	27.5

The results in Table 4.19 indicate that, majority of the respondents agreed to a very great extent that inadequate and poor training on ICT use (93.7%), inadequate ICT tools in county government offices (90.4%), lack of technical support (87.1%), limited access to internet (80.0%) and negative attitude towards computers in county government offices (75.0%) are

challenges facing county governments' readiness to adopt ICT in service delivery by county government of Kitui. The table further reveals that a large proportion of the respondents agreed to a great extent that; limited support by county management and National Government (62.5%) and limited access to internet (20.0%) are challenges facing county governments' readiness to adopt ICT in service delivery by county government of Kitui.

4.2.6 County government officials' suggestions/recommendations for improvement/action

The study sought to find out from the County government officials' suggestions and recommendations for improvement/action towards factors influencing adoption of ICT in service delivery by county government of Kitui. The responses given include: educating the locals through road-trips to the villages and community information centres (CIC); ICT education should be part of the syllabus in secondary schools; there is need for more training so as to gain skills and knowledge in the industry as this helps them get more knowledge; training of the staff to gain quality skills in ICT service; educating the public on the need of ICT awareness; there should be capital and schools to train ICT in the County; the governments should ensure they have enough funds to ensure they are ready for ICT projects, good practice; effective project, coordination and change management; technological change, modernization, and globalization; external pressure and donor support; government support; and adequate human resource in the county government to ensure that the human resource is ready and willing to work on any projects that arise.

4.2.7 Correlation Analysis

Table 4.20 Correlation Analysis

Correlations

		Influence of Human Resource Availability on adoption of ICT in service delivery by county government of Kitui	Influence of Financial Resource Availability on adoption of ICT in service delivery by county government of Kitui	Influence of Personal Characteristics of County Management on adoption of ICT service delivery by county government of Kitui	Influence of Infrastructure on adoption of ICT in service delivery by county government of Kitui
Influence of Human Resource Availability on adoption of ICT in service delivery by county government of Kitui	Pearson Correlation	1			
Influence of Financial Resource Availability on adoption of ICT in service delivery by county government of Kitui	Pearson Correlation	.755	1		
Influence of Personal Characteristics of County Management on adoption of ICT in service delivery by county government of Kitui	Pearson Correlation	.318	.143	1	
Influence of Infrastructure on adoption of ICT in service delivery by county government of Kitui	Pearson Correlation	.665	1.000**	.143	1

**. Correlation is significant at the 0.01 level (2-tailed).

The Pearson's correlation co-efficient of factors influencing adoption of ICT in the service delivery by county government of Kitui and influence of financial resource availability on adoption of ICT in service delivery by county government of Kitui is 0.755, influence of personal characteristics of county management on adoption of ICT in service delivery by county government of Kitui (0.318), and influence of infrastructure on adoption of ICT in service delivery by county government of Kitui (0.665). These coefficients imply that there exists a

positive association of influence of financial resource availability adoption of ICT in service delivery by county government of Kitui (75.5%), influence of personal characteristics of county management on adoption of ICT in service delivery by county government of Kitui (31.8%), and influence of infrastructure on adoption of ICT in service delivery by county government of Kitui (66.5%) to factors influencing adoption of ICT in service delivery by county government of Kitui. This positive association suggests that when one increases, factors influencing adoption of ICT in service delivery by county government of Kitui increases.

Table 4.21 Correlation Analysis for Human Resource Availability on adoption of ICT in service delivery

		Level of education	Professional experience	Development and training
Level of education	Pearson Correlation	1		
Professional experience	Pearson Correlation	.267	1	
Development and training	Pearson Correlation	.477	.493	1

The Pearson's correlation co-efficient of Influence of human resource availability on adoption of ICT in service delivery by county government of Kitui and professional experience is 0.267, and development and training is (0.477). These coefficients imply that there exists a positive association of professional experience is 26.7% and development and training (47.7%) to influence of human resource availability on adoption of ICT in service delivery by county government of Kitui. This positive association suggests that when one increases, influence of

human resource availability on adoption of ICT in service delivery by county government of Kitui increases.

4.2.8 Independent t-Tests

Table 4.22 Group Statistics

Group Statistics

	GEN	N	Mean	Std. Deviation	Std. Error Mean
Inadequate and poor training on ICT use	Male	39	4.33	1.155	.667
	Female	21	4.60	.548	.245
Inadequate ICT tools in county government offices	Male	39	4.67	.577	.333
	Female	21	3.40	1.673	.748
Lack of technical support	Male	39	3.33	.577	.333
	Female	21	4.00	1.000	.447
Limited access to internet	Male	39	3.00	.000	.000
	Female	21	3.40	.548	.245
Negative attitude towards computers in county government offices	Male	39	1.33	.577	.333
	Female	21	3.20	1.095	.490
Limited support by county management and National Government	Male	39	3.67	.577	.333
	Female	21	4.00	1.000	.447

Table 4.23 Independent samples tests

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Inadequate and poor training on ICT use	Equal variances assumed	5.463	.058	.016	60	-.455	-.267	.586	-1.701	1.168
Inadequate ICT tools in county government offices	Equal variances assumed	2.548	.162	.026	60	1.233	1.267	1.027	-1.246	3.780
Lack of technical support	Equal variances assumed	1.627	.249	.034	60	1.035	-.667	.644	-2.243	.909
Limited access to internet	Equal variances assumed	54.000	.000	.026	60	1.225	-.400	.327	-1.199	.399
Negative attitude towards computers in county government offices	Equal variances assumed	.374	.563	.037	60	2.678	-1.867	.697	-3.572	-.161
Limited support by county management and National Government	Equal variances assumed	1.627	.249	.023	60	-.518	-.333	.644	-1.909	1.243

The results come as two tables Table 4.22 that shows the group descriptive statistics and 4.23 that reveal the independent sample tests or the t-test results. The t value, degrees of freedom, and p values are the most important parts of this table. Degrees of freedom (df) reflects the sample size (df = N-60) The p value indicates the probability of Type 1 Error (rejecting the null when it is actually true) for the analysis.

Thus:- males reported that inadequate and poor training on ICT use is a challenge facing county government adoption of ICT in service delivery in Kitui more frequently than females, $t(60)= .016$, $p<.05$, Ms = 4.60 and 4.33, respectively. Males reported that inadequate ICT tools in county government offices is a challenge facing county government adoption of ICT in service delivery in Kitui more frequently than females, $t(60)= .026$, $p<.05$, Ms = 4.67 and 3.40, respectively.

Males reported that lack of technical support is a challenge facing county government adoption of ICT in service delivery in Kitui more frequently than females, $t(60)= .034$, $p<.05$, Ms = 4.00 and 3.33, respectively. Males reported that Limited access to internet is a challenge facing county government adoption of ICT in service delivery in Kitui more frequently than females, $t(60)= .026$, $p<.05$, Ms = 3.40 and 3.00, respectively.

Males reported that negative attitude towards computers in county government offices is a challenge facing county government adoption of ICT in service delivery in Kitui more frequently than females, $t(60)= .037$, $p<.05$, Ms = 3.20 and 1.33, respectively.Males reported that limited support by county management and National Government is a challenge facing county government adoption of ICT in service delivery in Kitui more frequently than females, $t(60)= .023$, $p<.05$, Ms = 4.00 and 3.67, respectively.

Therefore, a p value should be no more than a 0.05 probability of Type 1 Error. Since the p value in all the statements (<0.05) is lower than this, it is confident that a Type 1 Error has not

occurred. The result would be called "statistically significant," meaning that there is a significant relationship between challenges and county government in adoption of ICT in service delivery by county government of Kitui

4.3 The Study Response Rate (Responses from Kitui County Residents)

Out of 399 questionnaires which had been administered to the interviewees, 350 of them were returned for analysis. This translates to 87.7 percent return rate of the respondents. Overall, the response rate was considered very high and adequate for the study as shown in Table 4.24;

Table 4.24: Distribution of the Respondents by Responses Rate

Response Rate	Frequency (F)	Percentage (%)
Returned	350	87.7
Not Returned	49	12.3
Issued	**399**	**100.0**

4.3.1 Background information of the Kitui County Residents

The respondents in this section of the study were Kitui County residents drawn from 8 (Eight) administrative sub counties across Kitui County who were of different categories. The categories were characterized by gender, age, academic achievement, duration lived in Kitui County, type of occupation, access to internet and internet connection, frequency of connecting to the internet and place of connecting to the internet. The summary of the agents' distribution by their gender is given in Table 4.25

Table 4.25: Distribution of Kitui County Residents by Gender

Gender	Frequency (F)	Percentage (%)
Male	240	68.5
Female	110	20.0
Total	**350**	**100.0**

According to the data shown in Table 4.25, out of 350 respondents who participated in the study, 240 (68.5%) the majority were males while 110 (21.5%) were female. The findings could be an indication that most of the respondents are males. The distribution of the agents by age is given in Table 4.26

Table 4.26: Distribution of Kitui County Residents by Age

Age	Frequency (F)	Percentage (%)
18-22 years	0	0.0
23-27 years	47	13.4
28-32 years	75	21.4
33-37 years	96	27.4
38-42 years	58	16.6
43-47 years	39	11.1
48-52 years	26	7.4
53 and above years	19	5.4
Total	**350**	**100.0**

It is evident from the data shown in Table 4.26 that, majority of the respondents 96 (27.4%) fell under the age bracket of 33-37 years, 75 (21.4%) were aged 28-32 years, 58 (16.6%) were aged 38-42 years, 47 (13.4%) were aged 23-27 years, 39 (11.1%) were aged 43-47 years, 26 (7.4%) were aged 48-52 years and 19 (5.4%) were aged 53 and above years. The findings reveal that respondents are comprised of young and middle aged people. The distribution of the respondents by education level is given in Table 4.27

Table 4.27: Distribution of Kitui County Residents by education level

Academic Achievements	**Frequency (F)**	**Percentage (%)**
Certificate	33	9.4
Diploma	61	17.4
Undergraduate	103	29.4
Masters	49	14.0
Secondary	60	17.1
Primary	54	15.4
Total	**350**	**100.0**

The results in Table 4.27 indicate that, majority 103 (29.4%) of the respondents have attained undergraduate level of education, 61 (17.4%) have attained a diploma level of education, 60 (17.1%) have attained secondary education, 54 (15.4%) have attained primary level of education, 49 (14.0%) have attained a masters degree and 33 (9.4%) have attained certificate level of education. The findings point that majority of respondents have attained tertiary education. The

distribution of the respondents by how long they have been a resident of this county is given in Table 4.28.

Table 4.28: length respondents lived in Kitui County

Duration in Kitui County	Frequency (F)	Percentage (%)
1-5 year	42	12.0
5-10 years	89	25.4
10-15 years	93	26.6
Over 15 years	126	36.0
Total	**350**	**100.0**

The findings on Table 4.28 indicate that majority of respondents 126 (36.0%) have lived in Kitui County for a period of over 15 years. The findings further reveal that 93 (26.6%) of the respondents have lived in Kitui County for 10-15 years, 89 (25.4%) for 5-10 years and 42 (12.0%) for 1-5 years. The distribution of the respondents by type of occupation is given in Table 4.29.

Table 4.29: Type of occupation

Occupation	Frequency (F)	Percentage (%)
Farmer	107	30.6
Business person	154	44.0
Teacher	29	8.3
Administrator	35	10.0
Student	25	7.1
Total	**350**	**100.0**

The findings on Table 4.29 indicate majority 154 (44.0%) respondents are business persons, 107 (30.6%) are farmers, 35 (10.0%) are administrators, 29 (8.3%) are teachers and 25 (7.1%) are students. The access to internet and internet connection is given in Table 4.30.

Table 4.30: Access to internet and internet connection

Access	Frequency (F)	Percentage (%)
Yes	323	92.3
No	27	7.7
Total	**350**	**100.0**

Table 4.30 indicates that majority of respondents 323 (92.3%) have access to internet and internet connection while 27 (7.7%) do not. The distribution of the respondents by how often they connect to the internet is given in Table 4.31.

Table 4.31: Frequency of connecting to the internet

Frequency of connecting to the internet	Frequency (F)	Percentage (%)
Everyday	171	48.9
Several times a week	123	35.1
Several times a month	45	12.9
Once a month	9	2.6
Never	2	0.5
Total	**350**	**100.0**

The results in Table 4.31 indicate that, majority of the respondents 171 (48.9%) indicate that they connect to the internet everyday, 123 (35.1%) connect to the internet several times a week, 45

(12.9%) connect to the internet several times a month, 9 (2.6%) connect to the internet once a month and 2 (0.5%) never connect to the internet. The distribution of the respondents by where they connect to the internet from is given in Table 4.32.

Table 4.32: Place of connecting to the internet

Where to connect to the internet	Frequency (F)	Percentage (%)
Computer at home	67	19.1
Personal mobile phone	296	84.6
Cyber cafe	35	10.0
Workplace	167	47.7
Not applicable	2	0.5

The findings on Table 4.32 indicate that majority of the respondents 296 (84.6%) indicate that they connect to the internet using personal mobile phone, 167 (47.7%) connect to the internet at the workplace, 67 (19.1%) connect to the internet through computers at home and 35 (10.0%) connect to the internet in the cyber cafes.

4.3.2 Factors influencing adoption of ICT in service delivery by county government of Kitui

This section looks at the factors influencing adoption of ICT in service delivery by county government of Kitui which covers all the objectives of the study factors influencing adoption of ICT in service delivery by county government of Kitui are presented in Tables 4.33, Table 4.34, Table 4.35 and Table 4.36.

Table 4.33: Extent human resource availability factors influence adoption of ICT in service delivery

	No extent at all (%)	Little extent (%)	Moderate extent (%)	Great extent (%)	Very great extent (%)
Relevant skills in handling ICT programs	0.0	0.0	3.7	30.9	65.4
Lack of sufficient trained officials to educated and inform citizens of ICT projects	0.0	7.8	8.0	5.8	94.2
Lack of enough county personnel to cater for ICT projects	0.0	0.0	0.0	27.4	72.6

The results in Table 4.33 indicate that, majority of the respondents agreed to a very great extent that lack of sufficient trained officials to educated and inform citizens of ICT projects (94.2%), lack of enough county personnel to cater for ICT projects (72.6%) and relevant skills in handling ICT programs (65.4%) are factors in regard to human resource availability influence adoption of ICT in service delivery by county government of Kitui. The table further reveals that a large proportion of the respondents agreed to a great extent that; relevant skills in handling ICT programs (30.9%) and lack of enough county personnel to cater for ICT projects (27.4%) are factor in regard to human resource availability influences adoption of ICT in service delivery by county government of Kitui

Table 4.34: Extent financial resource availability factors influence adoption of ICT in service delivery

	No extent at all (%)	Little extent (%)	Moderate extent (%)	Great extent (%)	Very great extent (%)
Lack of finance to train on use of ICT programs	0.0	0.0	0.0	16.2	83.8
High cost of computer maintenance and upgrading	0.0	0.0	0.0	8.2	91.8
High cost of hardware and software	0.0	0.0	0.0	25.0	75.0

The results in Table 4.34 indicate that, majority of the respondents agreed to a very great extent that high cost of computer maintenance and upgrading (91.8%), lack of finance to train on use of ICT programs (83.8%), and high cost of hardware and software (75.0%) are factors in regard to financial resource availability influences adoption of ICT in service delivery by county government of Kitui. The table further reveals that a large proportion of the respondents agreed to a great extent that; high cost of hardware and software (25.0%) and lack of finance to train on use of ICT programs (16.2%) are factors in regard to financial resource availability influences adoption of ICT in service delivery by county government of Kitui.

Table 4.35: Extent personal characteristics of management influences adoption of ICT in service delivery

	No extent at all (%)	Little extent (%)	Moderate extent (%)	Great extent (%)	Very great extent (%)
Interest in the use of e-government systems	0.0	0.0	0.0	34.3	65.7
Readiness to devote extra time for ICT projects	0.0	0.0	0.0	20.9	79.1
County management attitude	0.0	0.0	0.0	10.7	89.3

The results in Table 4.35 indicate that, majority of the respondents agreed to a very great extent that County management attitude (89.3%), readiness to devote extra time for ICT projects (79.1%) and interest in the use of e-government systems (65.7%) are factors in regard to personal characteristics of county management influences adoption of ICT in service delivery by county government of Kitui. The table further reveals that a large proportion of the respondents agreed to a great extent that; interest in the use of e-government systems (34.3%) and readiness to devote extra time for ICT projects (20.9%) are factors in regard to personal characteristics of county management influences adoption of ICT in service delivery by county government of Kitui.

Table 4.36: Extent to which Infrastructure influence adoption of ICT in service delivery

	No extent at all (%)	Little extent (%)	Moderate extent (%)	Great extent (%)	Very great extent (%)
Lack of access to computers	0.0	0.0	0.0	6.3	93.7
Insufficient or irregular power supply	0.0	0.0	0.0	26.7	73.7
Frequent breakdown of computer and other digital equipment	0.0	0.0	0.0	43.3	56.7
Lack of reliable internet connectivity	0.0	0.0	0.0	24.9	85.1
Access to e- learning centre's	0.0	0.0	0.0	30.9	65.4

The results in Table 4.36 indicate that, majority of the respondents agreed to a very great extent that lack of access to computers (93.7%), lack of reliable internet connectivity (85.1%), insufficient or irregular power supply (73.7%), access to e- learning centre's (65.4%) and frequent breakdown of computer and other digital equipment (56.7%) are factors in regard to infrastructure influences adoption of ICT in service delivery by county government of Kitui. The table further reveals that a large proportion of the respondents agreed to a great extent that frequent breakdown of computer and other digital equipment (43.3%) is a factor in regard to infrastructure influences adoption of ICT in service delivery by county government of Kitui. The extent to which the following are challenges facing county government adoption of ICT in service delivery in kitui is given in Table 4.37

Table 4.37: Extent challenges face county governments' readiness to adopt ICT in service delivery

Challenges	No extent at all (%)	Little extent (%)	Moderate extent (%)	Great extent (%)	Very great extent (%)
Inadequate and poor training on ICT use	0.0	0.0	0.0	10.7	89.3
Inadequate ICT tools in county government offices	0.0	0.0	0.0	8.2	91.8
Lack of technical support	0.0	0.0	0.0	26.7	73.7
Limited access to internet	0.0	0.0	0.0	10.7	89.3
Negative attitude towards computers in county government offices	0.0	0.0	0.0	14.9	85.1
Limited support by county management and National Government	0.0	0.0	0.0	30.9	65.4

The results in Table 4.37 indicate that, majority of the respondents agreed to a very great extent that inadequate ICT tools in county government offices (91.8%), inadequate and poor training on ICT use (89.3%), limited access to internet (89.3%), negative attitude towards computers in county government offices (85.1%), lack of technical support (73.7%) and limited support by county management and National Government (65.4%) are challenges facing county government adoption of ICT in service delivery in Kitui. The table further reveals that a large proportion of the respondents agreed to a great extent that; limited support by county management and National Government (30.9%) and lack of technical support (26.7%) are challenges facing county government adoption of ICT in service delivery in Kitui.

4.3.3 Kitui County Residents suggestions/recommendations for improvement/action

The study sought to find out from the Kitui County residents suggestions/recommendations for improvement/action towards factors influencing adoption of ICT in service delivery by county government of Kitui. The responses given include: educating the locals through doing trips and seminars to the villages and introduction of community information centres (CIC) ; ICT education should be part of the syllabus in secondary schools; ensuring internet access is available for all residents in Kitui County, the internet service providers should provide adequate and high-end internet services in Kitui County for all residents, providing and improving ICT infrastructure; and the government should improve ICT policies in Kenya.

4.3.4 Correlation Analysis

Table 4.38 Correlation Analysis

Correlations

		1	2	3	4
1	Pearson Correlation	1			
2	Pearson Correlation	.555	1		
3	Pearson Correlation	.817**	.314**	1	
4	Pearson Correlation	.742**	.213**	.167**	1

**. Correlation is significant at the 0.01 level (2-tailed).

1= Influence of Human Resource Availability on adoption of ICT in service delivery by county government of Kitui

2= Influence of Financial Resource Availability on adoption of ICT in service delivery by county government of Kitui

3= Influence of Personal Characteristics of County Management on adoption of ICT service delivery by county government of Kitui

4= Influence of Infrastructure on adoption of ICT in service delivery by county government of Kitui

The Pearson's correlation co-efficient of factors influencing factors influencing adoption of ICT in service delivery by county government of Kitui and influence of financial resource availability on adoption of ICT in service delivery by county government of Kitui is 0.555, influence of personal characteristics of county management on adoption of ICT in service delivery by county government of Kitui (0.817), and influence of infrastructure on adoption of ICT in service delivery by county government of Kitui (0.742). These coefficients imply that there exists a positive association of influence of financial resource availability on adoption of ICT in service delivery by county government of Kitui (55.5%), influence of personal characteristics of county management on adoption of ICT in service delivery by county government of Kitui (81.7%), and influence of infrastructure on adoption of ICT in service delivery by county government of Kitui (74.2%) to factors influencing adoption of ICT in service delivery by county government of Kitui. This positive association suggests that when one increases, factors influencing adoption of ICT in service delivery by county government of Kitui increases.

4.3.5 Regression Analysis

Table 4.39: Model Goodness of Fit

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.893	.797	.284	.302

a. Predictors: (Constant), Relevant skills in handling ICT programs, Lack of sufficient trained officials to educated and inform citizens of ICT projects,
Lack of enough county personnel to cater for ICT projects, High cost of computer maintenance and upgrading, High cost of hardware and software, Interest in the use of e-government systems, Readiness to devote extra time for ICT projects, County management attitude, Lack of access to computers, Insufficient or irregular power supply, frequent breakdown of computer and other digital equipment, Lack of reliable internet connectivity, Access to e- learning centre's

The study used Table 4.39 to establish whether factors influencing adoption of ICT in service delivery by county government of Kitui have a linear dependence on the independent variables. The study established a correlation value of 0.893. This depicts a good linear dependence between the two variables. the value of R-square was 0.797 and adjusted to R-square 0.284. The coefficient of determination depicts that factors influencing adoption of ICT in service delivery by county government of Kitui brings about 28.4% variations in county governments' readiness to adopt ICT in service delivery by county government of Kitui; however 71.6% of variations are brought about by factors not captured in the objectives.

Table 4.40: Analysis of Variance (ANOVA)

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.717	7	.102	1.120	.529
	Residual	.183	2	.091		
	Total	.900	9			

Analysis of Variance was used to test the significance of the regression model as pertains to significance in the differences in means of the dependent and independent variables. The ANOVA test produced an f-value of 1.120 which was significant at p=0.529. This depicts that the regression model is not significant at 95% confidence level. That is, it has 52.9% probability of misrepresentation.

Table 4.41: Regression Coefficients

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
	Constant	1.910	2.327		.821	.498
	Relevant skills in handling ICT programs	.137	.114	-.581	1.209	.350
	Lack of sufficient trained officials to educated and inform citizens of ICT projects	-.145	.300	.310	.484	.676
	Lack of enough county personnel to cater for ICT projects	-.141	.413	.057	.341	.733
	Lack of finance to train on use of ICT programs	-.460	.235	.196	.190	.052
	High cost of computer maintenance and upgrading	-.072	.316	-.110	.227	.842
	High cost of hardware and software	-.045	.195	.125	.231	.839
	Interest in the use of e-government systems	.128	.276	.257	.465	.687
	Readiness to devote extra time for ICT projects	.329	.179	-1.073	1.832	.208
	County management attitude	.207	.241	.096	.858	.392
	Lack of access to computers	-.395	.250	-.156	-1.585	.115
	Insufficient or irregular power supply	-.258	.387	-.092	-.665	.507
	frequent breakdown of computer and other digital equipment	-.117	.401	.050	.293	.770
	Lack of reliable internet connectivity	-.024	.272	.011	.089	.930
	Access to e- learning centre's	.094	.243	.046	.388	.699

a. Dependent Variable: Access to internet and internet connection

Holding other factors constant, a unit increase in relevant skills in handling ICT programs would yield a 0.137 increase in adoption of ICT in service delivery by county government of Kitui however t-significance value 1.209 was established depicting that relevant skill in handling ICT programs is significantly related with adoption of ICT in service delivery by county government of Kitui. A unit increase in interest in the use of e-government systems would yield a 0.128

increase in adoption of ICT in service delivery by county government of Kitui however t-significance value 0.465 was established depicting that interest in the use of e-government systems is significantly related with adoption of ICT in service delivery by county government of Kitui. A unit increase in readiness to devote extra time for ICT projects would yield a 0.329 increase in adoption of ICT in service delivery by county government of Kitui however t-significance value 1.832 was established depicting that readiness to devote extra time for ICT projects is significantly related with adoption of ICT in service delivery by county government of Kitui.

A unit increase in County management attitude would yield a 0.207 increase in adoption of ICT in service delivery by county government of Kitui however t-significance value 0.858 was established depicting that County management attitude is significantly related with adoption of ICT in service delivery by county government of Kitui. A unit increase in access to e- learning centre's would yield a 0.094 increase in adoption of ICT in service delivery by county government of Kitui however t-significance value 0.338 was established depicting that access to e- learning centre's is significantly related with adoption of ICT in service delivery by county government of Kitui.

A unit increase in lack of sufficient trained officials to educated and inform citizens of ICT projects would yield a 0.145 decrease in adoption of ICT in service delivery by county government of Kitui however t-significance value 0.484 was established depicting that lack of sufficient trained officials to educate and inform citizens of ICT projects is significantly related

with adoption of ICT in service delivery by county government of Kitui. A unit increase in lack of enough county personnel to cater for ICT projects would yield a 0.141 decrease in adoption of ICT in the management of County governments' in Kenya however t-significance value 0.341 was established depicting that lack of enough county personnel to cater for ICT projects is significantly related with adoption of ICT in service delivery by county government of Kitui. A unit increase in lack of finance to train on use of ICT programs would yield a 0.460 decrease in adoption of ICT in service delivery by county government of Kitui however t-significance value 0.231 was established depicting that lack of finance to train on use of ICT programs is significantly related with adoption of ICT in service delivery by county government of Kitui.

A unit increase in high cost of computer maintenance and upgrading would yield a 0.072 decrease in adoption of ICT in service delivery by county government of Kitui however t-significance value 0.227 was established depicting that high cost of computer maintenance and upgrading is significantly related with adoption of ICT in service delivery by county government of Kitui. A unit increase in high cost of hardware and software would yield a 0.045 decrease in adoption of ICT in service delivery by county government of Kitui however t-significance value 0.231 was established depicting that high cost of hardware and software is significantly related with adoption of ICT in service delivery by county government of Kitui.

A unit increase in lack of access to computers would yield a 0.395 decrease in adoption of ICT in service delivery by county government of Kitui however t-significance value 1.585 was established depicting that lack of access to computers is significantly related with adoption of

ICT in service delivery by county government of Kitui. A unit increase in insufficient or irregular power supply would yield a 0.258 decrease in adoption of ICT in service delivery by county government of Kitui however t-significance value 0.665 was established depicting that insufficient or irregular power supply is significantly related with adoption of ICT in service delivery by county government of Kitui. A unit increase in frequent breakdown of computer and other digital equipment would yield a 0.117 decrease in adoption of ICT in service delivery by county government of Kitui however t-significance value 0.293 was established depicting that frequent breakdown of computer and other digital equipment is significantly related with adoption of ICT in service delivery by county government of Kitui. A unit increase in lack of reliable internet connectivity would yield a 0.024 decrease in adoption of ICT in service delivery by county government of Kitui however t-significance value 0.089 was established depicting that lack of reliable internet connectivity is significantly related with adoption of ICT in service delivery by county government of Kitui.

4.4 The Study Response Rate (Responses from top County government official)

The influence of human resource availability on the adoption of ICT in service delivery by county government of Kitui is given in Table 4.42

Table 4.42: Influence of human resource availability on the adoption of ICT in service delivery

Human resource availability	Frequency (F)	Percentage (%)
Yes	6	100.0
No	0	0.0
Total	**6**	**100.0**

It is evident from the data shown in Table 4.42 that all the top respondents 6 (100.0%) agreed that human resource availability influences the adoption of ICT in service delivery by county government of Kitui. The explanations given include: human resource is very important factors in the success of e-government because it encompasses user satisfaction, impact on employees, skills (adaptation to change, use of technology, integration, customer service) and HR training and development; and human resources factors which contributes towards an organization's e-government goals include training and support system which maintains the currency of personnel skills sets in keeping with e-government developments; IT assistance; such as help desks; suitably qualified IT staff within the public organisations; IT governance; and technical e-government experience. The influence of financial resource availability on the adoption of ICT in service delivery by county government of Kitui is given in Table 4.43

Table 4.43: Influence of financial resource availability on adoption of ICT in service delivery

Financial resource availability	Frequency (F)	Percentage (%)
Yes	6	100.0
No	0	0.0
Total	**6**	**100.0**

The results in Table 4.43 indicate that, all the top respondents 6 (100.0%) agreed that financial resource availability influences the adoption of ICT in service delivery by county government of Kitui. The explanations given include: e-government implementation should to provide the access to citizens and other users from one single integrated gateway as it requires participating government agencies to share their data to serve and achieve the citizens or e-government system users' needs; financial resource availability. The influence of personal characteristics of County management on the adoption of ICT in service delivery by county government of Kitui is given in Table 4.44.

Table 4.44: Influence of personal characteristics of county management on adoption of ICT in service delivery

Personal characteristics of county management	Frequency (F)	Percentage (%)
Yes	6	100.0
No	0	0.0
Total	**6**	**100.0**

The findings on Table 4.44 indicate that all the top respondents 6 (100.0%) agreed that personal characteristics of county management influences the adoption of ICT in service delivery by county government of Kitui. The explanations given include: The knowledge, skill, attitude and mindset of county government officials easily influence the results of the ICT project whether positively or negatively; the county management personal characteristics such as perceived benefits of ICT adoption; ICT literacy; level of assertiveness in terms of business decision processes, perceived control over requirements for opportunities and resources as well as mistrust of ICT and lack of time also affect the outcome of ICT projects; peoples age, gender, educational level are very crucial in determining the end result of ICT projects in any county; and personal characteristics also affect decisions made for any ICT project in Kenya. The influence of infrastructure on the adoption of ICT in service delivery by county government of Kitui is given in Table 4.45

Table 4.45 Influence of Infrastructure on adoption of ICT in service delivery

Infrastructure on adoption of ICT	Frequency (F)	Percentage (%)
Yes	6	100.0
No	0	0.0
Total	**6**	**100.0**

The findings on Table 4.45 indicate that all the respondents 6 (100.0%) indicated that infrastructure influences the adoption of ICT in service delivery by county government of Kitui. The explanations given include: having a successful ICT strategy that requires that government organizations establish a suitable IT infrastructure to support information systems and

applications; infrastructure helps increase productivity and performance, improve policy-making, and provide better public services to the citizens; improving internet allows access to multiple services, as a foundation to support the digital broadcast systems to apply a global digital network; and inadequate ICT infrastructure has hampered provision of efficient and affordable ICT services in the country.

4.4.1 Challenges faced by Top County government official when implementing ICT

The study sought to find out the challenges faced when implementing ICT in service delivery by county government of Kitui. The responses given include: poor Infrastructure; lack of Finance; poor data systems and lack of compatibility; lack of skilled personnel; different leadership styles, culture, and bureaucracy; different county management attitudes; poor ICT policies; poor coordination between county government officials and the residents; lack of donors and donor funding; limited or no access to internet in some areas in Kitui County; negative attitude regarding ICT and computers from the county government officials; inadequate ICT infrastructure has hampered provision of efficient and affordable ICT services in the country; and lack of technical support.

4.4.2 Top county government official suggestions and recommendations for improvement/action

The study sought to find out from the top county government official suggestions and recommendations towards factors influencing adoption of ICT in service delivery by county government in Kenya with a focus on Kitui County. The responses given include: training of county government staff as well as the residents; introducing ICT study in schools' curriculum so as to enable students learn early about ICT; the government should introduce and enforce good

ICT policies; improvement of infrastructure for easier access; training of county personnel on ICT; improvement of data systems, computers and other ICT technology to help in easing up the projects; raising finances and also allocating money to ICT projects when the county government and the national government are doing their annual budget; coming up with strong program and project management is essential to develop and implement successful ICT solutions; making decisions on how an organizational process fits the technology; identifying the right technologies for Kitui County; County official staff should be ‘re-skilled’ to anticipate the changes that accompany an ICT structure and new roles; examining national e-Readiness; need to protect investments already made in the existing IT infrastructure; the government should determine the quality and quantity of the telecommunications networks to handle the new traffic resulting from the use of these new services' level of service quality; and conducting e-readiness assessment across the County.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The basic purpose of this chapter is to give the summary, discussions, conclusions and recommendations of the study. This chapter provides the summary, discussion, conclusions and recommendations of the study. This was based on the research findings that is presented and discussed in the previous chapters. The study established several findings which make a direct contribution to knowledge and policy formulation. Recommendations both for further research as well as policy and practice have been made.

5.2 Summary of Research Findings

This study aimed at establishing the factors influencing adoption of ICT in service delivery by county government of Kitui. The task included; establishing the extent to which human resource availability influence adoption of ICT in service delivery by county government of Kitui; examining the extent to which financial resource availability influences adoption of ICT in service delivery by county government of Kitui; establishing the influence of personal characteristics of county management on adoption of ICT in service delivery by county government of Kitui; and examining the extent to which infrastructure influences the adoption of ICT in service delivery by county government of Kitui. The study reviewed previous studies

with a view to establish academic gaps which the present study sought to bridge. This was done through library research.

This study adopted a descriptive survey design and employed quantitative research as the main approach to guide the study. The study targeted all sixty four (64) County government officials, 8 top county government officials and 399 member of the public (residents of Kitui County) from shopping centres and institutions such as NGO's, Banks, schools (targeting teachers) and colleges in Kitui County. The research instrument used in data collection was a questionnaire to draw information from the respondents. To ensure validity of the instruments, expert opinion was sought. Data analysis was started immediately after the field. Data was summarized into frequencies and percentages and presented in tables. This section comprises of discussions based on the specific research objectives of the study.

The study findings reveal that majority of County government officials in Kitui County are males aged between 43-47 years who have attained either undergraduate degree achievements. The findings also reveal that majority of County government officials have lived in Kitui County for over 15 years and are very conversant with the term adopt ICT in service delivery. The study results indicate the County government officials contribute towards the adoption of ICT in service delivery by county government of Kitui.

The study results reveal that majority of Kitui County residents are males aged between 33-37 years and have attained undergraduate level of education. The findings reveal majority of Kitui

County residents have lived in Kitui County for a period of over 15 years. The findings further reveal that Kitui County residents are business persons. The findings also reveal that majority of the residents have access to internet and internet connection that they connect to everyday using personal mobile phone. The study results indicate the Kitui County residents contribute towards the adoption of ICT in service delivery by county government of Kitui.

5.2.1 Major Findings on influence of human resource availability on adoption of ICT in service delivery by county government of Kitui

The objective was to establish the extent to which human resource availability influence adoption of ICT in service delivery by county government of Kitui. The measurement of this objective was based on one indicator namely; human resource availability. The major finding of this objective was that all the County government officials and top county officials agreed that human resource availability influences the adoption of ICT in service delivery by county government of Kitui. Majority of the County government officials agreed that human resource availability influences the adoption of ICT in service delivery by county government of Kitui to a moderate extent. The findings further reveal that majority of the County government officials and Kitui County residents agreed to a great extent that level of education, professional experience, lack of sufficient trained officials to educated and inform citizens of ICT projects, lack of enough county personnel to cater for ICT projects and relevant skills in handling ICT programs are factors in regard to human resource availability influences adoption of ICT in service delivery by county government of Kitui. From the results, the top county officials felt that human resource is very important factors in the success of e-government because it encompasses user satisfaction, impact on employees, skills (adaptation to change, use of

technology, integration, customer service) and HR training and development; and human resources factors which contributes towards an organization's e-government goals include training and support system which maintains the currency of personnel skills sets in keeping with e-government developments; IT assistance; such as help desks; suitably qualified IT staff within the public organisations; IT governance; and technical e-government experience.

5.2.2 Major Findings on the Influence of Financial Resource Availability on adoption of ICT in service delivery by county government of Kitui

The third objective was to establish the influence of financial resource availability of county management on adoption of ICT in service delivery by county government of Kitui. The measurement of this objective was based on one indicator namely; financial resource availability. The major finding of this objective was that majority of the County government officials and top county officials agreed that financial resource availability influences the adoption of ICT in service delivery by county government of Kitui Majority of the County government officials agreed that financial resource availability influences the adoption of ICT in service delivery by county government of Kitui to a moderate and large extent respectively. The findings further reveal that majority of the County government officials and Kitui County residents agreed to a great extent that adoption of modern technology compatible with the National government systems, lack of external financial support from NGOs and grants for ICT projects, finances and funding for county ICT projects County management attitude, high cost of computer maintenance and upgrading, lack of finance to train on use of ICT programs, and high cost of hardware and software are factors in regard to financial resource availability influences adoption of ICT in service delivery by county government of Kitui. From the results, the top county

officials felt that e-government implementation should to provide the access to citizens and other users from one single integrated gateway as it requires participating government agencies to share their data to serve and achieve the citizens or e-government system users' needs; financial resource availability.

5.2.3 Major Findings on the influence of personal characteristics of County management on adoption of ICT in service delivery by county government of Kitui

The third objective was to establish the influence of personal characteristics of county management on adoption of ICT in service delivery by county government of Kitui. The measurement of this objective was based on one indicator namely; personal characteristics of County management. The major finding of this objective was that majority of the County government officials and top county officials agreed that personal characteristics of County management influence the adoption of ICT in the management of county governments' in Kenya. Majority of the County government officials agreed that personal characteristics of County management influences the adoption of ICT in service delivery by county government of Kitui to a moderate extent. The findings further reveal that majority of the County government officials and Kitui County residents agreed to a very great extent that County management professional experience, County management attitude, lack of external financial support from NGOs and grants for ICT projects and finances and funding for county ICT projects County management attitude, readiness to devote extra time for ICT projects and interest in the use of e-government systems are factors in regard to personal characteristics of county management influence adoption of ICT in service delivery by county government of Kitui. From the results,

the top county officials felt that The knowledge, skill, attitude and mindset of county government officials easily influence the results of the ICT project whether positively or negatively; the county management personal characteristics such as perceived benefits of ICT adoption; ICT literacy; level of assertiveness in terms of business decision processes, perceived control over requirements for opportunities and resources as well as mistrust of ICT and lack of time also affect the outcome of ICT projects; peoples age, gender, educational level are very crucial in determining the end result of ICT projects in any county; and personal characteristics also affect decisions made for any ICT project in Kenya

5.2.4 Major Findings on the influence of infrastructure on adoption of ICT in service delivery by county government of Kitui

The fourth objective of the study was to examine the extent to which infrastructure influences the adoption of ICT in service delivery by county government of Kitui. The measurement of this objective was based on one indicator namely; infrastructure. The major finding of this objective was that all the County government officials and top county officials agreed that infrastructure influences the adoption of ICT in service delivery by county government of Kitui. Majority of the County government officials agreed that infrastructure influences the adoption of ICT in service delivery by county government of Kitui to a moderate and large extent respectively. The findings further reveal that majority of the County government officials and Kitui County residents agreed to a very great extent that availability of reliable and secure information systems, availability of networks both internal and external with National government, lack of access to computers, lack of reliable internet connectivity, insufficient or irregular power supply, access to e- learning centre's, and frequent breakdown of computer and other digital equipment

are factors in regard to infrastructure influences adoption of ICT in the service delivery by county government of Kitui. From the results, the top county officials felt that having a successful ICT strategy that requires that government organizations establish a suitable IT infrastructure to support information systems and applications; infrastructure helps increase productivity and performance, improve policy-making, and provide better public services to the citizens; improving internet allows access to multiple services, as a foundation to support the digital broadcast systems to apply a global digital network; and inadequate ICT infrastructure has hampered provision of efficient and affordable ICT services in the country.

5.3 Conclusion of the Study

The study found that there exists a positive association between; human resource availability and adoption of ICT in service delivery by county government of Kitui, financial resource availability and adoption of ICT in service delivery by county government of Kitui, personal characteristics of County management and adoption of ICT in the service delivery by county government of Kitui, and influence of infrastructure and adoption of ICT in service delivery by county government of Kitui. This positive association suggests that when one factor increases, adoption of ICT in service delivery by county government of Kitui increases. The study therefore concludes that human resource availability, financial resource availability, personal characteristics of County management and infrastructure are factors influencing adoption of ICT in service delivery by county government of Kitui.

5.4 Recommendations of the Study

On the basis of the above, conclusions, the following recommendations were made for factors influencing adoption of ICT in service delivery by county government of Kitui.

5.4.1 Recommendations for policy and practice

The study recommends there is need for the County government to educate the locals through road-trips to the villages and establishment of Community Information Centres; ICT education should be part of the syllabus in secondary schools; there is need for more training so as to gain skills and knowledge in the industry as this helps them get more knowledge; training of the staff to gain quality skills in ICT service; educating the public on the need of ICT awareness; funds should be availed to schools in order to train ICT on behalf of the County. Technological change, modernization, and globalization; external pressure and donor support in which the ICT should not be left for county government. Adequate human resource in the county government to ensure that the human resource is ready and willing to work on any projects that arise; ICT education should be part of the syllabus in secondary schools; ensuring internet access is available for all residents in Kitui County; training of county government staff as well as the residents; introducing ICT study in schools' curriculum so as to enable students learn early about ICT; training of county personnels on ICT; improvement of data systems, computers and other ICT technology to help in easing up the projects; raising finances and also allocating money to ICT projects when the county government and the national government are doing their annual budget; coming up with strong program and project management is essential to develop and implement successful ICT solutions; making decisions on how an organizational process fits the technology;

identifying the right technologies for Kitui County; and County official staff should be 're-skilled' to anticipate the changes that accompany an ICT structure and new roles

The study recommends there is need for the government to; ensure they have enough funds to ensure they are ready for ICT projects, good practice; effective project, coordination and change management; offer government support; the government should improve ICT policies in Kenya; the government should introduce and enforce good ICT policies; improvement of infrastructure for easier access; examining national e-Readiness; need to protect investments already made in the existing IT infrastructure; the government should determine the quality and quantity of the telecommunications networks to handle the new traffic resulting from the use of these new services' level of service quality; the internet service providers should provide adequate and high-end internet services in Kitui County for all residents, providing and improving ICT infrastructure; and conducting e-readiness assessment across the County.

5.4.2 suggestions for further research

This study sought to establish the factors influencing adoption of ICT in service delivery by county government of Kitui attempting to bridge the gap in knowledge that existed. Although the study attained these, it mainly focused on One County that is Kitui County. Then there is need to replicate the study using many other Counties in Kenya in an attempt to compare the findings.

The there is need to conduct a similar study which will attempt to find out the ICT challenges facing County governments in Kenya.

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APPENDICES

APPENDIX I: LETTER OF TRANSMITAL

Joseph Mulwa,
P.O Box 1207-70100,
Garissa , Kenya,
12th February 2015.

Dear Respondent,

RE: **DATA COLLECTION**

I am a student at the University of Nairobi currently undertaking a research study to fulfill the requirements of the Award of Master of Project Planning and Management on the **factors influencing adoption of ICT in the service delivery by county government in Kenya with a focus on Kitui County**. You have been selected to participate in this study and I would highly appreciate if you assisted me by responding to all questions in the attached questionnaire as completely, correctly and honestly as possible.
Your identity will be treated with utmost confidentiality and the responses will be used only for research purposes of this study only.

Thank you for your co-operation.
Yours faithfully,

Joseph Mulwa
L50/73514/2014
Researcher

APPENDIX II: QUESTIONNAIRE FOR COUNTY OFFICIALS

Questionnaire Number

Instructions: ***kindly complete the following questionnaire using the instructions provided for each set of question. Tick appropriately.***
This questionnaire is designed to collect data and you are kindly requested to give correct information because it will be used for academic purpose only.

Part A: Respondent's background information

1. What is your gender?

a) Male ☐ b) Female ☐

2. Please indicate your age

a) 18-22 years ☐ b) 23-27 years ☐ c) 28-32 years ☐ d) 33-37 years ☐
e) 38-42 years ☐ f) 43-47 years ☐ g) 48-52 years ☐ h) 53 and above ☐

3. What is your education level?

a) Certificate ☐ b) Diploma ☐ c) Undergraduate ☐
d) Post Graduate ☐ e) Other _____

4. How long have you been a resident of this county?

a) 1-5 years ☐ b) 5-10 years ☐ c) 10-15 years ☐ d) Over 15 years ☐

5. Are you well conversant with the ICT in service delivery?

a) Very conversant ☐ b) Partially conversant ☐ c) Not conversant ☐

Part B: Influence of human resource availability on adoption of ICT in service delivery by county government of Kitui

6. In your opinion, does human resource availability influence adoption of ICT in service delivery by county government of Kitui? a) Yes ☐ b) No ☐

7. If the answer to question number(6) six is Yes/No to what extent

   a) To a very great extent ☐ b)To a great extent ☐ c)To a moderate extent ☐

   d) To a low extent ☐ e) To a very low extent ☐

8. To what extent do you agree to the following factors in regard to human resource availability influencing adoption of ICT in service delivery by county government of Kitui? Indicate your response based on a 5-point scale by using a tick (√) or X to mark the applicable box.

	Not at all (1)	**Little extent (2)**	**Moderate extent (3)**	**Great extent (4)**	**Very great extent (5)**
Level of education					
Professional experience					
Development and training					

Part C: Influence of financial resource availability on adoption of ICT in service delivery by county government of Kitui

9. In your opinion, does financial resource availability influence the adoption of ICT service delivery by county government of Kitui? a) Yes ☐ b) No ☐

10. if the answer to number (9) nine above is Yes/No to what extent

   a) To a very great extent ☐ b) To a great extent ☐ c) To a moderate extent ☐

   d) To a low extent ☐ e)To a very low extent ☐

11. To what extent do you agree to the following in regard to financial resource availability influence on adoption of ICT in service delivery by county government of Kitui? Indicate your response based on a 5-point scale by using a tick (√) or X to mark the applicable box.

	Not at all (1)	**Little extent (2)**	**Moderate extent (3)**	**Great extent (4)**	**Very great extent (5)**
Finances and funding for county ICT projects					
Lack of external financial support from NGOs and grants for ICT projects					
Adoption of modern technology compatible with the National government systems					

Part D: Influence of personal characteristics of County management on adoption of ICT in service delivery by county government of Kitui

12. In your opinion, do personal characteristics of county management influence the adoption of ICT in service delivery by county government of Kitui? a) Yes ☐ b) No ☐

13. If the answer to question number 12 above indicate to what extent

a) To a very great extent ☐ b) To a great extent ☐ c) To a moderate extent ☐

d) To a low extent ☐ e) To a very low extent ☐

14. To what extent do you agree to the following in regard to personal characteristics of county management influence on adoption of ICT in service delivery by county government of Kitui? Indicate your response based on a 5-point scale by using a tick (√) or X to mark the applicable box.

	Not at all (1)	**Little extent (2)**	**Moderate extent (3)**	**Great extent (4)**	**Very great extent (5)**
County management's age & gender					

County management attitude					
County management professional experience					

Part E: Influence of Infrastructure on adoption of ICT in service delivery by county government of Kitui

15. In your opinion, does infrastructure influence the adoption of ICT in service delivery by county government of Kitui? a) Yes ☐ b) No ☐

16. If the answer provide to question (15) above is Yes/No show to what extent

a) To a very great extent ☐ b) To a great extent ☐ c) To a moderate extent ☐

d) To a low extent ☐ e) To a very low extent ☐

17. To what extent do you agree to the following in regard to infrastructure influence on adoption of ICT in service delivery by county government of Kitui? Indicate your response based on a 5-point scale by using a tick (√) or X to mark the applicable box.

	Not at all (1)	**Little extent (2)**	**Moderate extent (3)**	**Great extent (4)**	**Very great extent (5)**
Availability and access of computers and hardware					
Availability of networks both internal and external with National government					
Availability of reliable and secure information systems					

18. To what extent do you agree to the following as challenges facing county government adoption of ICT in service delivery in Kitui ? Indicate your response based on a 5-point scale by using a tick (√) or X to mark the applicable box.

	Not at all (1)	**Little extent (2)**	**Moderate extent (3)**	**Great extent (4)**	**Very great extent (5)**
Inadequate and poor training on ICT use					
Inadequate ICT tools in county government offices					
Lack of technical support					
Limited access to internet					
Negative attitude towards computers in county government offices					
Limited support by county management and National Government					
Others (specify)	1. 2.				

19. Please give suggestions/recommendations for improvement/action towards factors influencing adoption of ICT in service delivery by county government of Kitui

_____

_____

_____

_____

THANK YOU FOR YOUR TIME AND COOPERATION

APPENDIX III : QUESTIONNAIRE KITUI COUNTY RESIDENTS

Questionnaire Number

Instructions: ***Kindly complete the following questionnaire using the instructions provided for each set of question. Tick appropriately.***
This questionnaire is designed to collect data and you are kindly requested to give correct information because it will be used for academic purpose only.

Part A: Respondent's background information

1. What is your gender?

a) Male ☐ b)Female ☐

2. Please indicate your age

a) 18-22 years ☐ b) 23-27 years ☐ c) 28-32 years ☐ d) 33-37 years ☐
e) 38-42 years ☐ f) 43-47 years ☐ g) 48-52 years ☐ h) 53 and above ☐

3. What is your education level?

a) Certificate ☐ b) Diploma ☐ c) Undergraduate ☐
d) Post Graduate ☐ e) Other _____

4. How long have you been a resident of this county?

a) 1-5 years ☐ b) 5-10 years ☐ c) 10-15 years ☐ d) Over 15 years ☐

5. What is your occupation?

a) Farmer ☐ b) Businessperson ☐ c) Teacher ☐ d) Administrator ☐
e) Other _____

6. (a) Do you have access to internet and internet connection? a) Yes ☐ b) No ☐

(b) If Yes to Q. 6 (a), how often do you connect to the internet

a) Everyday ☐ b) Several times a week ☐ c) Several times a month ☐

d) Once a month ☐ e) Never ☐

7. If Yes to Q. 6 (a), from where do you connect to the internet?

a) Computer at home ☐ b)Personal mobile phone ☐ c) Cyber cafe ☐ Workplace ☐

Part B: Factors influencing adoption of ICT in service delivery by county government of Kitui

8. To what extent do you agree to the following factors in regard to adoption of ICT in service delivery by county government of Kitui? Indicate your response based on a 5-point scale by using a tick (√) or X to mark the applicable box.

	Strongly Agree (5)	**Agree (4)**	**Uncertain (3)**	**Disagree (2)**	**Strongly Disagree (1)**
Human resource availability					
Relevant skills in handling ICT programs					
Lack of sufficient trained officials to educated and inform citizens of ICT projects					
Lack of enough county personnel to cater for ICT projects					
Financial resource availability					
Lack of finance to train on use of ICT programs					
High cost of computer maintenance and upgrading					
High cost of hardware and software					
Personal characteristics of county management					
Interest in the use of e-government systems					
Readiness to devote extra time for ICT projects					
County management attitude					
Infrastructure					
Lack of access to computers					

Insufficient or irregular power supply					
Frequent breakdown of computer and other digital equipment					
Lack of reliable internet connectivity					
Access to e- learning centre's					

9. To what extent do you agree to the following as challenges facing county governments to adopt ICT in service delivery in Kenya? Indicate your response based on a 5-point scale by using a tick (√) or X to mark the applicable box.

	Not at all (1)	**Little extent (2)**	**Moderate extent (3)**	**Great extent (4)**	**Very great extent (5)**
Inadequate and poor training on ICT use					
Inadequate ICT tools in county government offices					
Lack of technical support					
Limited access to internet					
Negative attitude towards computers in county government offices					
Limited support by county management and National Government					
Others (specify)	1. 2.				

10. Please give suggestions/recommendations for improvement/action towards factors influencing adoption of ICT in service delivery by county government of Kitui

_____

_____

THANK YOU FOR YOUR TIME AND COOPERATION

APPENDIX IV: INTERVIEW GUIDE FOR TOP COUNTY GOVERNMENT OFFICIAL

1. In your opinion, does human resource availability influence the adoption of ICT in service delivery by county government of Kitui? (If Yes *Probe how and extent, if No Probe for explanation*)

2. In your opinion, does financial resource availability influence the adoption of ICT in service delivery by county government of Kitui? (If Yes *Probe how and extent, if No Probe for explanation*)

3. In your opinion, do personal characteristics of county management and members of public influence the adoption of ICT in service delivery by county government of Kitui? (If Yes *Probe how and extent, if No Probe for explanation*)

4. In your opinion, does infrastructure influence the adoption of ICT in service delivery by county government of Kitui? (If Yes *Probe how and extent, if No Probe for explanation*)

5. What are some of the challenges you face when implementing ICT projects in Kitui County? (*Probe for challenges*)

6. Please give suggestions/recommendations towards factors influencing adoption of ICT service delivery by county government of Kitui

THANK YOU FOR YOUR TIME AND COOPERATION

APPENDIX V: RESEARCH AUTHORIZATION LETTER

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No.

Date:

30th June, 2015

NACOSTI/P/15/3135/6118

Joseph Mutemi Mulwa
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Factors influencing adoption of ICT in the management of county governments' in Kenya: A case of Kitui County, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Kitui County** for a period ending **4th December, 2015.**

You are advised to report to **the County Commissioner and the County Director of Education, Kitui County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

DR. S. K. LANGAT, OGW
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Kitui County.

The County Director of Education
Kitui County.

APPENDIX VI: RESEARCH PERMIT

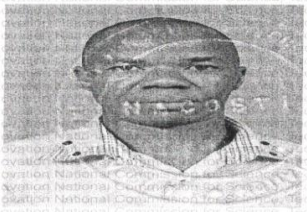
THIS IS TO CERTIFY THAT:
MR. JOSEPH MUTEMI MULWA
of UNIVERSITY OF NAIROBI, 1207-70100
machakos,has been permitted to
conduct research in *Kitui County*

on the topic: *FACTORS INFLUENCING ADOPTION OF ICT IN THE MANAGEMENT OF COUNTY GOVERNMENTS' IN KENYA: A CASE OF KITUI COUNTY, KENYA*

for the period ending:
4th December,2015

.....
Applicant's Signature

Permit No : NACOSTI/P/15/3135/6118
Date Of Issue : 30th June,2015
Fee Recieved :Ksh 1,000



.....
Director General
National Commission for Science, Technology & Innovation

APPENDIX VII: MAP OF KITUI COUNTY