THE IMPACT OF ICT IN SERVICE DELIVERY:

A CASE STUDY OF THE MINISTRY OF PLANNING AND DEVOLUTION

By

Daniel Waithaka Ng'ang'a

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements

for the degree of

MASTER OF DEVELOPMENT POLICY

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Committee in charge:

Professor Sang-Moon HAHM, Supervisor

Professor Ju-Ho LEE

Professor Changyong CHOI

Approval as of May, 2014

DECLARATION

This is to declare that this research thesis is my original work and has not been presented to any other University or Institution of Higher Learning for examination.

Signed:  Date 2014/28

DANIEL WAITHAKA NGANGA

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This is to declare that this thesis has been submitted for examination with my approval as the University Supervisor

Signature:…….. Date:……

SUPERVISOR:

DEDICATION

I dedicate this study to my family members for their inspiration, support and patience. Our entire family of Ng'ang'a, they are my principal motivation to keep on striving higher for excellence.

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EXECUTIVE SUMMARY

Information and Communication Technologies (ICT) have assumed a critical role in the development agenda of most countries due to their essential role in facilitating socio-economic development. Kenya has developed and enacted an ICT policy, with the Ministry of Devolution and Planning taking a leading role.

This study focused on assessing the impacts of ICT in service delivery: a case study of the Ministry of Devolution and Planning in Kenya. The study main objectives were to assess the impacts of ICT in the Ministry of Planning and Devolution in Kenya; to find out the benefits and challenges encountered while using ICT in the Ministry and to offer recommendations for challenges encountered in order for the Ministry to achieve its developmental mandate.

Survey design was adopted for this study and data collected from forty (40) individuals through the use of questionnaire. Data was then analyzed through the use of Statistical Packages for Social Sciences (SPSS) and presented using pie charts, bar graphs, percentages and frequency tables.

The study found that there are various factors that contribute to the success of ICT usage in the ministry. These factors include sound vision and strategy; government support; external pressure & donor support; rising consumer demands; technology change, modernization and globalization. However, other factors such as lack of infrastructure, financial constraints, poor data systems and compatibility, lack of skilled personnel, leadership styles, culture, bureaucracy and attitudes.

This study revealed that ICT has major benefits in an organization such as a catalyst for socio-economic development, integration of market, help improve education standard, catalyst for innovation through research, boost of business of ICT, country growth through e-government projects among others.

The study also revealed that asynchronous tools such as emails, blogs were mostly used in the Ministry. Consequently, social media and computing tools also recorded high usage unlike knowledge base tools where usage was low.

The study concluded that the potential benefits of ICT usage in the ministry, agencies and departments, those involved in the design, implementation and management of ICT-related projects and systems in the ministry and the country at large must improve their capacity to address specific contextual; characteristic of the organization, sector, county or region within which their work is located.

The study recommends that ministries to embrace technology for efficient and effective for better service delivery. Additionally, it is recommended that government to continuously offer essential support in ICT infrastructure through adequate funding.

CHAPTER ONE: INRTODUCTION AND BACKGROUND OF THE STUDY

1.1 INTRODUCTION

The 21st century has been characterized by a common global phenomenon of globalization with bewildering speed of the technological revolution due mainly to the development of Information Communication Technology (ICT). ICT combines the disciplines of information technology and communication technology. The digital conversion of these two technologies leads to data transmission through the Internet. Likewise, the adoption of ICT at governance level is expected to influence all fields including service delivery and employment in labor market.

The role of information and communication technologies (ICT) has been growing in the economic and social life recently. Information and communication technologies are one of the basic priorities of research and development (R&D) in the information society. In recent years, analyses on the impact of ICT on business and economic environment have been widely addressed by policy makers, technology developers, and science and business societies more and more often. Studies of the socioeconomic impact of ICT cover a wide spectrum of questions. The Institute for Prospective Technological Studies (IPTS) defines five important thematic trends in ICT research: macroeconomic and social conditions for ICT-based innovations; ICT, organizational changes and transformation of work processes; the social dimension of ICT; political instruments related to ICT development (Gatautis, 2008).

Like many other developed and developing countries, Kenya has embraced and integrated ICT in all her sectors and in major government institutions. Central to this, is the Ministry of Planning and Devolution (MoPD) which is responsible to driving the country towards achieving Vision 2030. Vision 2030 is the country'snew development blue-print covering the period 2008 to 2030. It aims to transform Kenya into a newly industrializing, "*middle-income country providing a high quality life to all its citizens by the year 2030*" (Republic of Kenya MoPD, 2007).

The Ministry of Planning and Devolution previously referred to as the Ministry of State for Planning, National Development and Vision 2030 plays a key and strategic role within the overall structure of government. Its mandate is to facilitate and coordinate the national development planning process, oversee the implementation of Kenya Vision 2030 and provide leadership in the implementation of economic policies. Its functions, derived from the Presidential Circular No 1/2008 of May 2008, are executed through six technical Directorates namely: Macro Planning, Sectoral Planning, Infrastructure, Science, Technology and Innovation, Rural Planning, and Monitoring and Evaluation. There is also an Administration Department and eight Semi-Autonomous Government Agencies (SAGAs), which include Kenya National Bureau of Statistics (KNBS), Kenya Institute for Public Policy Research and Analysis (KIPPRA), Constituency Development Fund (CDF), Community Development Trust Fund (CDTF), Poverty Eradication Commission (PEC), National Coordinating Agency for Population and Development (NCAPD), New Partnership for Africa's Development (NEPAD) Secretariat and the Vision Delivery Secretariat (VDS). The Ministry has a presence in line ministries through Central Planning and Project Monitoring Units (CPPMUs) and at the province and district levels to ensure the provision of planning services at all levels (Republic of Kenya- Ministry of Planning and Devolution, 2012)

This research thesis will review the impacts of ICT in the Ministry of Planning and Development. The concept of ICT will be explained and how it has been used in this Ministry in literature review. Achievement and challenges encountered in the quest for achievement of Vision 2030 will be highlighted. Theories advanced in ICT sector will be assessed and their applicability in

the Kenyan context. Last the study finding and conclusions will be discussed as well as recommendations on the way forward.

1.2 Statement of the problem

Various studies have been done in Kenya in ICT context in the recent past. Hallberg*et al* (2011) studied "*Case studies of Kenyan digital villages with a focus on women and girls*". They found out that majority of users of digital villages were aged between 18 and 25 and most likely are university students, most of which are in IT field.

Farell (2007) in a study commissioned by InfoDev examined "*Survey of ICT and Education in Kenya*" and found out that there are several initiatives and ICT policies to promote the use of ICT in education sector in Kenya. In particular, the study found that the Ministry of Education developed a Kenya education Sector support Program (KESSP) in 2005 that featured ICT as one of the priority areas with the aim of mainstreaming ICTs into the teaching and learning process.

The effort to improve the public services delivery in Kenya dates back to 1989 and 1990 (Kenya Institute of public Policy Research and Analysis (KIPPRA, 2010). The government implemented Performance contract system with the aim of rewarding excellence and black listing those who Performed below expectation or got involved in corrupt practices. Nevertheless, the government's effort failed primarily because of what policy-makers term as lack of political will and incentives that rewarded best performance (KIPPRA, 2010).

However, no study has been conducted in the Ministry of Planning and Devolution in Kenya yet it is one of the crucial ministries responsible for driving the country from resource-based economy to information-rich, technology-led, digital economy. This study therefore aims to fill

this dearth of information by attempting to answer the question: What are the impacts of ICTs-the case study in the Ministry of Planning and Devolution?

1.3 Research Objectives

The major objective s of this study is:

i. To assess the impacts of ICT in the Ministry of Planning and Devolution in Kenya.

ii. To find out the benefits and challenges encountered while using ICT in the Ministry.

iii. To offer recommendations for challenges encountered in order for the Ministry to achieve its developmental mandate.

1.4 Scope of the study

The study will cover the departments and Semi-Autonomous Government Agencies (SAGAs) mentioned aforementioned earlier to fully comprehend the impact ICT has had in the Ministry of Planning and Devolution.

1.5 Justification of the Study

The Kenyan Government aims to achieve middle-income status as envisioned in Vision 2030 and the Ministry of Planning and Devolution is endeavored to fulfill this task. Central to Vision 2030, the country proposes intensified application of Science, Technology and Innovation (STI) to raise productivity and efficiency levels across all levels of production.

ICT has also been seen as an enabler to socio-economic growth and development, a means but not an end, and a tool to gain competitive advantage. It is therefore justified to understand the impact ICT has been having to the critical ministry of the state.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

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 are cyber café', tele-centres 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.

Kenya has made remarkable progress putting in place an ICT policy framework and implementation strategy, complete with measurable outcomes and time frames. The process has had the benefit of sound advice from officials and stakeholders and, perhaps more importantly, strong leadership from the office of the Permanent Secretary of the Ministry of Education. However, universal implementation is challenging given the lack of resources, national ICT infrastructure, and even electrical supply – particularly in the rural areas.

This chapter reviews the concept of Information and Communication technology, its impacts and how it can help the Ministry of Devolution and Planning and how this ministry is relevant in impacting service delivery in Kenya.

2.1.1. Information and Communication Technologies (ICTs)

Definitions of ICTs are as varied as they are diverse. Marcelle (2000) defines ICTs as a complex and heterogeneous set of goods, applications and services used for producing, distributing, processing and transforming information. Ngenge (2003) perceives them as technologies that enable the handling of information and facilitate different forms of communication between human actors, human beings and electronic systems, and between electronic systems. Overall, ICTs are grouped under two categories: 'traditional' and 'new'. Traditional (old) ICTs constitute non-electronic media such as print and analogue technologies, i.e, radio, television, fixed line telephones, and facsimile machines. These technologies have been gradually ingrained in the daily lives of people and communities. 'New' ICTs consist of computers (in all their myriad manifestations) and data processing applications accessible through their use (email, internet, word processing, cellular phones, wireless technologies and other data processing applications) (Gurumurthy, 2004:6; Marcelle, 2008:8).

2.1.2 The concept of Devolution and planning

Devolution is one among several forms of decentralization, which is a characteristic of all governments globally. One analyst distinguishes *vertical* decentralization, which offers a vote, from *horizontal* decentralization, which also offers voice (Kauzya, 2007).

Olsen and Eadie define strategic planning as a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it acts as it does. Strategic planning usually requires broad-scale information gathering, generation and

exploration of alternative courses of action, and an emphasis on the future implications of near-term decisions (Olsen &Eadie, 1982).

The Ministry of Devolution and Planning (MoDP) was established to provide effective leadership and coordination in devolution and planning, policy formulation and tracking results for a globally competitive and prosperous nation (GoK, MoPD 2013). It thus seeks to be a centre in devolution and planning for a globally competitive and prosperous nation with a quality of life for all Kenyans.

2.2 Benefits of ICT-led Ministry in the Government

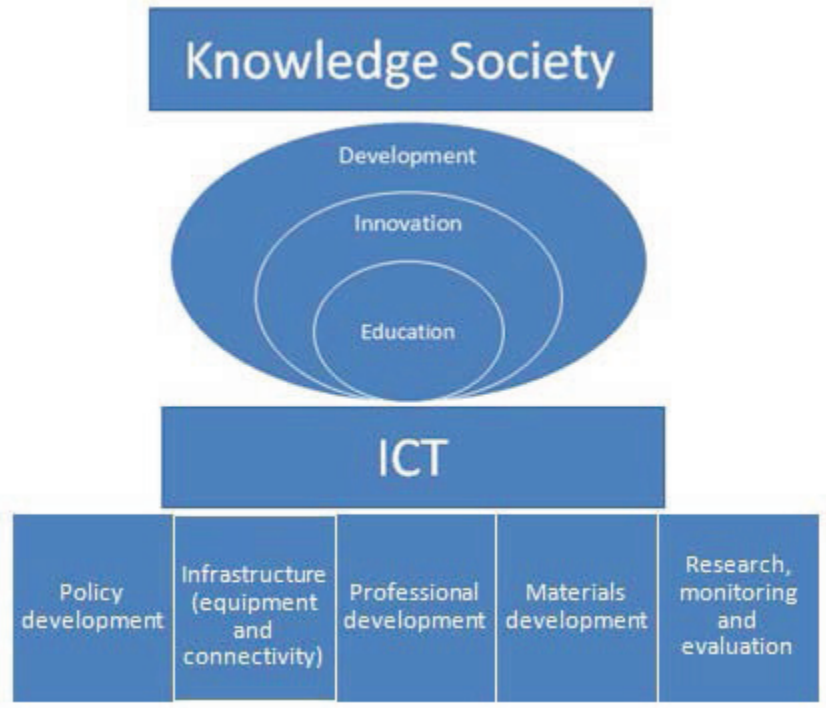
There are various benefits that the country will achieve once the Ministry of Devolution and Planning (MoPD) has fully integrated information technology in its operations. According to the World Bank article (2013), the World Bank helps developing countries use information and communications technologies (ICT) to improve access to affordable connectivity, including broadband, transform delivery of basic services, drive innovations and productivity gains, and improve competitiveness. Since 2007, the World Bank Group has strengthened its support for public-private ventures for broadband and high-speed internet, reducing retail prices and increasing service use, in some cases by a factor of 10. The following benefits have been identified after review of literature from other scholars who have studied the field of ICT.

2.2.1. ICT as enabler of social economic development

Butcher (2010) argues that ICT can be used to tackle some of the challenges facing education and be a key driver of development strategies, but requires sustained investment and strong

alignment with systemic changes (in education, service delivery, and /or economic productivity. ICT can also be regarded as a potent tool in reducing poverty, extending health services, expanding opportunities and generally improving the quality of life. Additionally, a national policy framework to codify how ICT can and will be used for socio-economic development across the various spheres in government. The diagram below illustrates the model .

Figure 1: ICT as a tool for socio-economic development



The above observations are also supported by the World Bank which notes that technological progress is a considerable driving force behind economic growth. ICT infrastructure in particular has attracted much investment, and generated significant fiscal revenues and employment opportunities in developing countries (World Bank, 2013).

In addition, more than a decade, information and communication technologies (ICT) have been attributed a key role in both economic growth and poverty reduction. They increase efficiency, provide access to new markets or services, create new opportunities for income generation and give poor people a voice. And while considerable improvements have been achieved in Africa with respect to certain aspects of ICT – including the spread of mobile telephony and an increasing number of national ICT strategies as well as regional initiatives – there are still areas where improvement is needed in order for Africa as a whole to be able to take advantage of the benefits of ICT (African Partnership Forum (AFP), 2008).

2.2.2 Integration of market

Through the rapid spread of information and communication technologies (ICT) and ever decreasing prices for communication, markets in different parts of the world become more integrated. Therefore, one basic question is whether the use of ICT (as production technology, as information processing technology or as information communication technology) can help them to cope with these new challenges.

2.2.3 Economic growth and improve education standard

Universal access to ICTs has been identified by the government as a major objective of the Vision 2030 efforts.1 It is expected that greater access to ICTs will contribute to economic growth by reducing transaction costs and increasing businesses efficiency, especially in the case of small service firms in rural areas; in addition, ICTs should contribute to improve educational standards and access to information as well as accountability on the part of government officials.2

The Vision 2030 document is a strategic plan developed by the government of Kenya in order to make Kenya a "middle income country providing high quality services life for all its citizens by the year 2030."3 The plan was developed in 2007 and made official in 2008 with the express goal of making Kenya one of the top three investment destinations in the African continent, a peaceful society ridden of ethnic and political conflict and a politically-stable nation where government is held accountable (CCK, 2011).

2.2.4 ICT as a catalyst of spurring innovation through research

ICT development research has been shaped with awareness of the relentless ICT and organizational innovation taking place in advanced economies of the world— primarily North America and Europe—and of the increasing socio economic interconnectedness of all countries and regions in the condition referred to as globalization. Thus, a common assumption in ICT development research is that developing countries are at a disadvantage in relation to the ICT innovation experiences in the context of origin of new technologies. This culminated in the notion of a "digital divide" signifying a new form of inequality. A great deal of research focused on the significance of this problem (Avgerou, 2010) and sought to monitor progress in reducing it (Kenny, 2000; Mbarika et al., 2003; Wresch, 1998).

2.2.5 The impact of ICT on business

The use of ICT in enterprises and organizations in pursuance of improving work processes is one of the most important opportunities of the application of ICT. ICT has not only had the impact on many areas of manufacturing, services, information management, communications, etc., but has also become an established technology, used in management, work and communication processes. Granted that the efficiency of ICT may be doubtful in many areas of manufacturing

and services, the importance of ICT is recognized when new enterprises and activity spaces are being established (Bailey, 1997). ICT has changed and will further transform not only the nature of work and communications, but also the ways of organization of enterprise and business activity. It is expected that this technology will eliminate the existing limits between economic relations and interaction, and will create new ways of communications, new types of market relations and will provide new opportunities to mobilize activities and expand spaces of interaction.

Evaluating the impact of ICT on business, it is necessary to indicate that the implementation of ICT-enabled solutions is related to both internal and external factors. The implementation ICT does not only mean acquiring certain software; it also affects different processes of the enterprise. The enterprise has to be capable of changing, because the implementation of ICT requires primarily transformations inside the enterprise (Adelaar, 2000).

2.2.6 The impact of ICT at the national level

In recent years the concepts of government and administration have been transformed radically. Transformations were caused not only by growing requirements and expectations for ways of governing civil society to reflect modern methods of efficiency and productivity, but also the attitude that government should be more open to democratic control and accountability. The above-mentioned processes of changes had a lot of impact on the activity of government. A lot of public institutions have included the ICT dimension into their activities. Many authors state that e-Government ensures efficiency and democracy in a more economical way than it was forecasted before, and the application of ICT creates opportunities for government to modify the

traditional compromise between these two objectives. However, new technologies allow moving still further. They help change the government by changing power and responsibility links between all participating parties – service providers and industry, public and private sector, and government and citizens.

It is most important that all Kenyan public institutions have to participate in the development and implementation of e-Government projects. Supervision of provision of public services via digital channels, coordination and analysis of e-Government projects is crucial for the successful operation of e-Government initiatives. Changes related to the implementation of eGovernment projects (modernization of public administration) are and will be very significant. Application of information technologies and use of their possibilities will strongly change our understanding about administration, ways and means of control, the ways of reporting the results and assessment of the efficiency of staff work.

2.2.7 The impact of ICT at the regional and local level

Usually e-Government is defined as the usage of ICT to provide public services (therefore, it is closely related to an administrative management unit); however, ICT-enabled solutions are also applied at various administration levels – international, national, regional or local. The application at the local level is related to the concept of e-City. The concept of e-City is based not only on the provision of information, but also on the possibility to include citizens into the life of a city more actively and mutually usefully. E.g. digital technologies (remote network systems, internet and mobile technologies) are used to facilitate the process of decision-making

for public institutions, improve public policy in local communities and transform relations with citizens, business and other public institutions (Gatautis, 2004).

Kenya prides itself as the gateway to the Eastern Africa and therefore, it can leverage on the use of ICTs to her advantage especially on its Mombasa port and Jomo Kenyatta International Airport through which most East African importers and tourist transit on respectively. The planning should be in such a way that, it enhances business flow and thus this ministry has a role to play through the use of ICT.

2.3 Tools of ICT

Word processing is the most widely used software application. Although your parents and grandparents might have used manual typewriters, times have changed and word-processing software is on practically every computer.

This refers to a piece of software that allows you to enter data (words and numbers) in an organized manner and to manipulate or change it.

For example, imagine you entered a column of information about the price of a pen, then a column of the price you could sell it for at your school fair. Using a simple formula you could then ask the spreadsheet to take the first price away from the second to calculate your profit, without you ever having to look at a calculator.

2.4 National ICT Policies

After several years of effort, Kenya promulgated a National ICT Policy in January 2006 that aims to “improve the livelihoods of Kenyans by ensuring the availability of accessible, efficient,

reliable and affordable ICT services". The national policy has several sections, including information technology, broadcasting, telecommunications, and postal services.

Additionally, Gichoya (2005) identifies the characteristics that define Kenyan ICT environment as:

- 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;
- Unstable ICT resources

2.5 Factors for success in ICT usage

Factors for success are those occurrences whose presence or absence determines the success of an ICT project. They can be drivers or enablers as described by (Moran 1998, Riley 2000, Doherty etal. 1998, Heeks 2003b, Mugonyi 2003, Heeks 2004, Khaled 2003). . Their absence can cause failure and their presence can cause success.

Drivers are the factors that encourage or reinforce the successful implementation of ICT projects. Some of these are listed below:

• Vision and strategy

• Government support

• External pressure and donor support

• Rising consumer expectations

• Technological change, modernization, and globalization

Enablers are the active elements present in society, which help overcome the potential barriers. Some of these are listed below

- Effective project, coordination and change management
- Good practice

2.6 Factors for Failure

The factors for failure are those occurrences that constraint proper/smooth implementation of ICT projects in government. These can either be barriers or inhibitors as described by (Khaled 2003, Gakunu 2004, Aineruhanga 2004, Heeks 2003a, Ndou 2004, Bhatnagar 2003, Saul and Zulu 1994).

Barriers can be considered as those occurrences that hinder ICT implementation. Some of these factors for failure are listed below.

• Infrastructure

• Finance

• Poor data systems and lack of compatibility

• Skilled personnel

• Leadership styles, culture, and bureaucracy

• Attitudes

Besides the above factors, World Bank (2013) highlights four challenges that developing countries must address in order to maximize ICT growth. They include (i) improving affordability in order to reach the population in developing countries that currently lives beyond the ICT networks, (ii) widening access to more advanced, affordable ICT services such as broadband for high-speed internet, (iii) leveraging the new ICT infrastructure to improve the delivery of services and to build on it as a source of economic growth, and (iv) developing and aligning people skills relevant to the information technology-enabled services industries and knowledge economy.

The above problems can be solved by various initiatives. In 2012, the World Bank released a new ICT sector strategy comprising three strategic directions: Connect, Innovate and Transform.

The strategy's *Connect* pillar focuses on expanding connectivity infrastructure and promoting stability and predictability in regulatory systems. The World Bank has worked with over 100 countries over the last decade to support privatization and sector liberalization, as well as capacity building for governments and regulatory institutions. More recently, the World Bank has stepped up its financing of innovative public-private partnerships as catalytic vehicles to attract additional private sector investment in broadband infrastructure. This includes regional communications infrastructure programs to accelerate the rollout of terrestrial backbone networks and submarine cable systems in Africa, Pacific Islands and the Caribbean (World Bank, 2012)

The strategy's *Innovate* pillar develops competitive IT-based service industries and fosters ICT innovation across the economy, including at the grassroots technology entrepreneurship level –

with a focus on job creation, especially for women and youth. This support includes a small but growing portfolio of IT industry development projects in Ghana, Mexico, Kenya, Armenia, Nigeria, and Bhutan (*ibid*.)

The strategy's *Transform* pillar draws on deep sector expertise and relationships with government institutions to integrate innovations into service delivery and the accountability process. This makes development more open and accountable, and improves government services to citizens and businesses in for instance, education, health, and financial services. This support includes a portfolio of e-Governance and e-Transformation projects in Vietnam, Ghana, Rwanda, Sri Lanka, Moldova and the Eastern Caribbean (*ibid*.)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research design and setting

In this study, a survey design will be adopted. The research problem is best studied through the use of sample survey which is the study of subsets of the total population where some items under study are investigated since the population of government departments and Semi-Autonomous Government Agency (SAGAs) under the Ministry of Devolution and Planning is very large.

3.2 Target population

According to Kothari (2004), a population refers to the entire group of subjects that conform to a given specification that can be used as a data for research purposes. A population also refers to the total collection of elements about which the researcher wishes to make some inferences (Cooper & Schindler, 2003). In this study the population is 40 individuals who work in the Ministry/ department or autonomous agency under the ministry will be interviewed.

3.3 Data Collection Instruments.

This study will use questionnaire as the data collection tool. The questionnaire will contain both close-ended and open-ended questions. A close-ended or structured question gives a respondent limited and predetermined response option to choose from. The advantage of the structured questionnaire is that it would be easier and leave no room for other possible responses.

A questionnaire is a data collection tool that sets out in a formal way the questions designed to elicit the desired information. It will consists of a list of structured questions, unstructured questions and Likert scales relating to the field of inquiry with space provided for selection of choices and explanatory answers. Close ended questions have the advantage of collecting viable

quantitative data while open-ended questions allows the respondents freedom of answering questions and the chance to provide in-depth responses. Questionnaire method is preferred in this study because it is efficient, cheap and easy to be administered. The questionnaire will be administered through drop and pick methods to selected respondents with a brief explanation on their purpose and importance. Questionnaire pretesting will be done through a simple pilot study to ascertain its effectiveness.

As indicated earlier, 40 respondents will used for the study. Mugenda and Mugenda (2003) indicated that a population sample of more than 30 is sufficient for studies. The structured questions will be used in an effort to conserve time and money as well as to facilitate in easier analysis in their immediate usable form; while the unstructured questions are used so as to encourage the respondents to give in-depth and felt response without feeling held back in revealing of any information.

Ethical considerations in this study is that the data that will be collected in the ministry under the scope of the study will be treated with utmost confidentiality and they will be solely be used for the purpose of this study.

3.4 Data analysis

The collected data will be well examined and checked for completeness and comprehensibility. The data will be then summarized, coded and tabulated. Descriptive statistics such as means, standard deviation and frequency distribution will be used to analyze the data through the use of Statistical Packages for Social Sciences (SPPS). Data presentation will then be done through by the use of pie charts, bar charts, graphs, percentages and frequency tables.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter discussed the interpretations and presentations of the findings. The objectives of this study were to establish impacts of ICT usage in service delivery: A case study of Ministry of Devolution and Planning. This chapter focused on data analysis, interpretation and presentation and presents the discussion and conclusion of the study.

4.1.1 Response rate

From the study, the study population was 40 where 35 respondents responded and returned the questionnaires. This constituted an 87.5% response rate. Mugenda and Mugenda (2003) indicated a respondent rate of 50%, 60% or 70% is sufficient for a study and therefore a respondent rate of 87.5% for this study was very good.

4.2 Ministry and respondent profile

4.2.1 Respondent's position

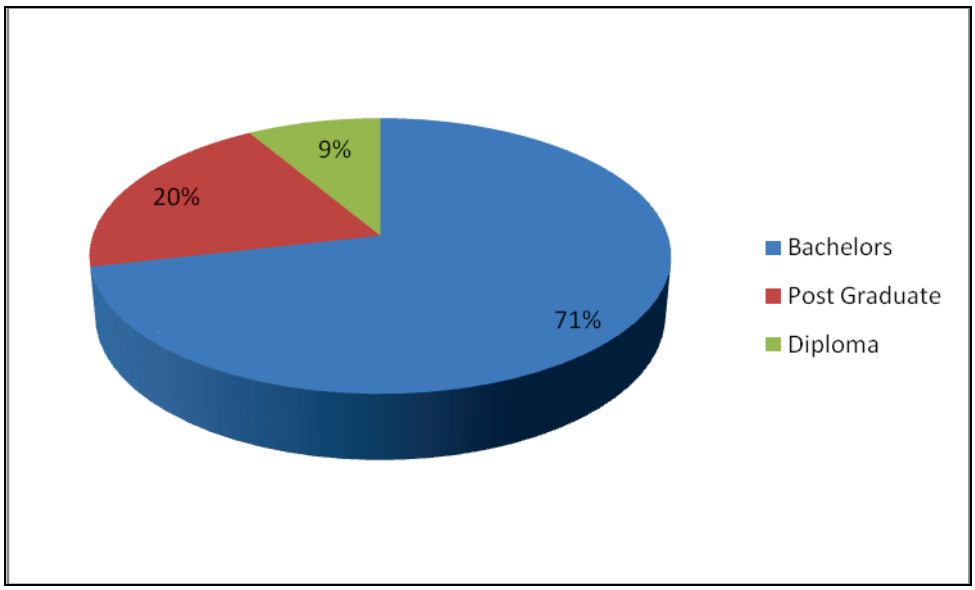
The study sought to investigate respondents' position in the Ministry. From the findings, most of the respondents indicated that they were senior ICT managers in operation, accounting, logistics, engineering, retail, wholesale and government accounts departments. This implies that the ministry had grouped its activities into departments/SAGAs and assigned all of its rights and obligations pursuant to its staffs which enable it to pursue economies of scale as well as meeting the common set of problems and needs of the public through the well placed specialists.

4.2.2Respondent's level of education

The study sought to know the respondent's level of education. Out of 35 respondents, 25 of them had Bachelor's degree, representing 71 %. Seven respondents had post graduate qualification

which is equivalent to 20% while three respondents had Diploma qualification representing 9%. This implied that in deed the Ministry has highly qualified staff who are well skilled to take part in this kind of study. This is indicated in the figure 2 below.

Figure 2: Respondent's level of education

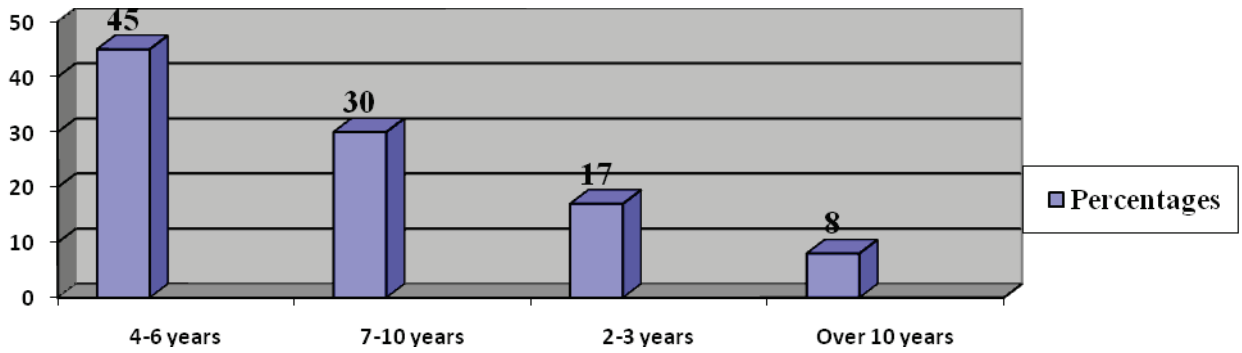


4.2.3Working period in the ministry

The study sought to investigate the period of year the respondents had been working in their various departments/SAGAs. From the findings, 45% of the respondents indicated that they have been working in the ministry for a period of 4-6 years, 30% of the respondents indicated that they have been working for a period of 7-10 years, 17% of the respondents had been working for a period of 2-3 years while 8% of the respondents indicated that they have been working in the ministry for over 10 years. This implies that respondents had worked in the ministry in various departments for a period of more than 2 years; therefore they were well

experienced to offer critical insights of ICT usage in the Ministry.This is illustrated in figure 3 below.

Figure 3: Working period in the ministry



4.3 Main issues

4.3.1 Benefits of ICT usage in the ministry

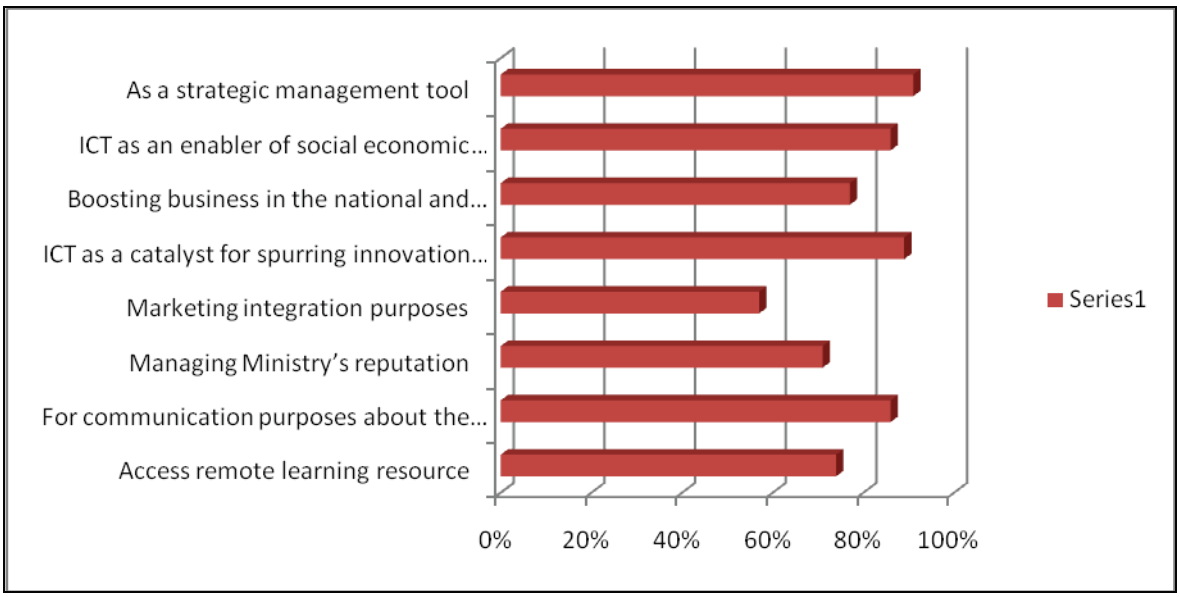
The study sought to know the benefits of ICT usage as used in the ministry. From the findings, majority of the respondents indicated that the ministry draws a lot of benefits by continuous usage of ICT in different departments and Semi-Autonomous Government Agencies under the Ministry as explained in the table above. Majority viewed ICT usage as a strategic tool, as a catalyst for spurring innovation within the ministry and communication and as enabler for social economic development as most critical benefits with 91%, 89% and 86% respectively. ICT usage as a marketing tool recorded the lowest response with only 57% of respondents viewing it as a benefit. This implied that the ministry is able to understand the impact of competitive advantage and invest more in ICT usage in long term strategies to enhance service delivery. This concurred

with Kumar et al. (1997) who found that organizations may also choose a combination strategy by mixing the aforementioned strategies. This is shown in Table 1 and figure 4 below.

Table 1: benefits of ICT usage

	Frequency		% of yes
	Yes	No	
Access remote learning resource	26	9	74%
For communication purposes about the Ministry's events	30	5	86%
Managing Ministry's reputation	25	10	71%
Marketing integration purposes	20	15	57%
ICT as a catalyst for spurring innovation though research	31	4	89%
Boosting business in the national and international levels	27	8	77%
ICT as an enabler of social economic development	30	5	86%
As a strategic management tool	32	3	91%

Figure 4: Uses of ICT in an organization



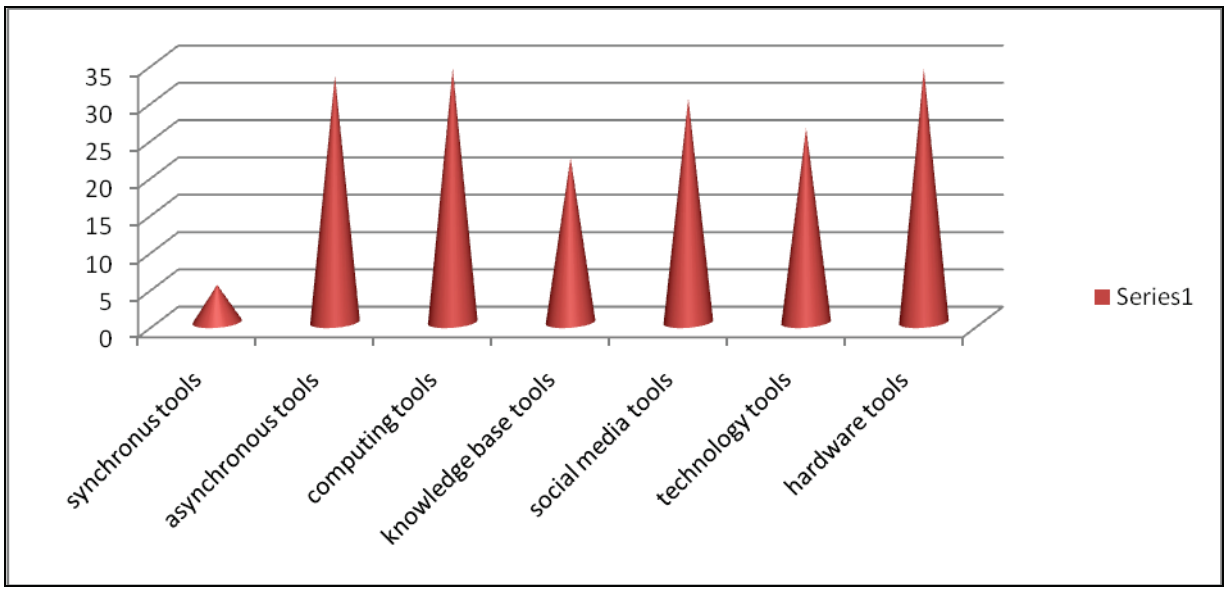
4.3.2usage of ICT tools in the Ministry

The study sought to know which ICT tools were commonly used in different departments/SAGAs within the ministry in their service delivery to the general public and within the ministry. Synchronous tools such as Skype, Google talk and video messaging recorded the lowest usage with only 5 respondents reporting their usage. This translated to 14% of the total respondents. However others tools such as computing tools (word processors), Hardware (lap tops, desk tops) recorded the highest usage with both usage at 97% as shown in the table 2 and figure 5 below.

Table 2: Respondent usage of ICT tools

Tool	Respondent's frequency usage	Percentage of usage
Synchronous (Skype, Google talk, MSN, Yahoo Messager, video Messaging etc)	5	14%
Asynchronous (email, blogs, podcasts, online forums, audiographics etc)	33	94%
Computing tools (word processor, spreadsheets, presentation softwareetc)	34	97%
Knowledge Base (online magazines, journals, librariesetc)	22	63%
Social Media (Facebook, Twitter, My Space etc)	30	86%
Technology (Web Cam, Bluetooth, iPod, USB, Portable Video Player etc)	26	74%
Hardwares (lap tops, Desk tops, faxes, telephones etc)	34	97%

Figure 5: Graphical presentations of ICT tools used in the Ministry.



The table 3 below indicates the extent to the given factors causing ICT usage success. On the factors that caused competition, a five point Likert scale was used to interpret the respondent's extent. Accorded to scale those issues that were rated as no extent were awarded 1 while those which were to a very great extent were awarded 5. Within the continuum are 2 for less extent, 3 for neutral and 4 for great extent. Mean and standard deviation were used to analyze the data. According to the researcher, those factors with a mean close to 4.5 were rated as to a very great extent while those with a mean close to 3.0 were rated to no extent or even not considered at all. From the finding, majority of the respondents indicated that the ministry's vision and strategy; government policies/support; external pressure and donor support; rising consumer expectations and technological change, modernization and globalization as major factors that influence ICT usage success in the organization to a great extent as indicated by a mean of 4.63, 4.89, 4.97, 4.53 and 4.49 with standard deviation of 0.51, 064, 0.83, 0.51 and 0.59.

Table 3: Factors for ICT success

.	mean	stddvt
Vision and strategy	4.63	0.51
Government support	4.89	0.64
External pressure and donor support	4.97	0.83
Rising consumer expectations	4.53	0.51
Technological change, modernization and globalization	4.49	0.59

4.3.3 Factors influencing failure of ICT usage

The study sought to know the extent to which respondents agreed on the given statement concerning factors influencing failure of ICT usage in the ministry. A five point Likert scale was used to interpret the respondent's extent. Accorded to scale those issues that were strongly disagreed on were awarded 1 while those which were strongly agreed on were awarded 5. Within the continuum are 2 for disagree, 3 for neutral and 4 for agree. Mean and standard deviation were used to analyze the data. According to the researcher, those factors with a mean close to 4.5 were rated as to a very great extent while those with a mean close to 3.0 were rated to no extent or even not considered at all. On the same note the higher the standard deviation the higher the level of disagreement or dispersion among the respondents. From the finding, majority of the respondents strongly agreed that the need to allocate more finances and having well established infrastructure systems for a robust ICT system in the ministry as indicated by a mean of 4.95, 4.67, 4.69, 4.93, 4.80, and 4.44 with standard deviation of 0.91, 0.64, 0.63, 0.81, 0.69, and 0.71.

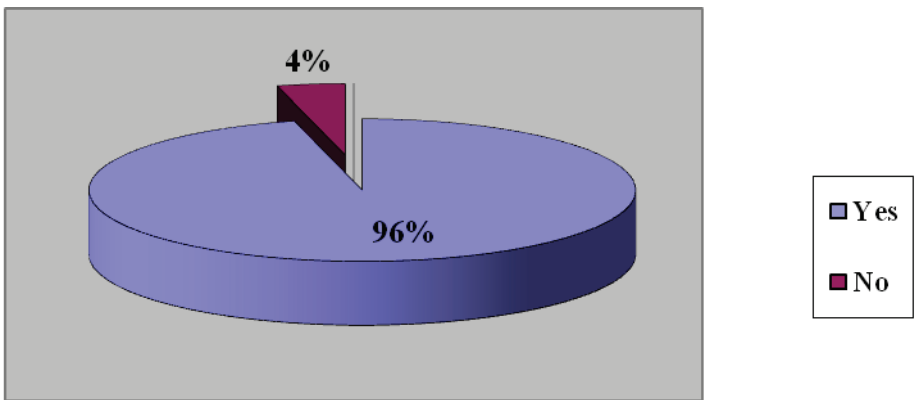
Table 4: Factors influencing failure of ICT

	Mean	Std dvt
Poor infrastructure	4.95	0.91
Limited finance	4.67	0.64
Poor data systems	4.69	0.63
Unskilled personnel	4.93	0.81
Leadership systems, culture and bureaucracy	4.80	0.69
Attitudes	4.44	0.71

4.3.4 Whether the ministry has a well-established ICT department

The study sought to know whether the ministry has a well-established ICT department. From the findings majority 96% of the respondents indicated that the ministry has a well-established ICT department while 4% of the respondents indicated that the ministry did not have a well-established ICT department.

Figure 6: Well-established ICT department



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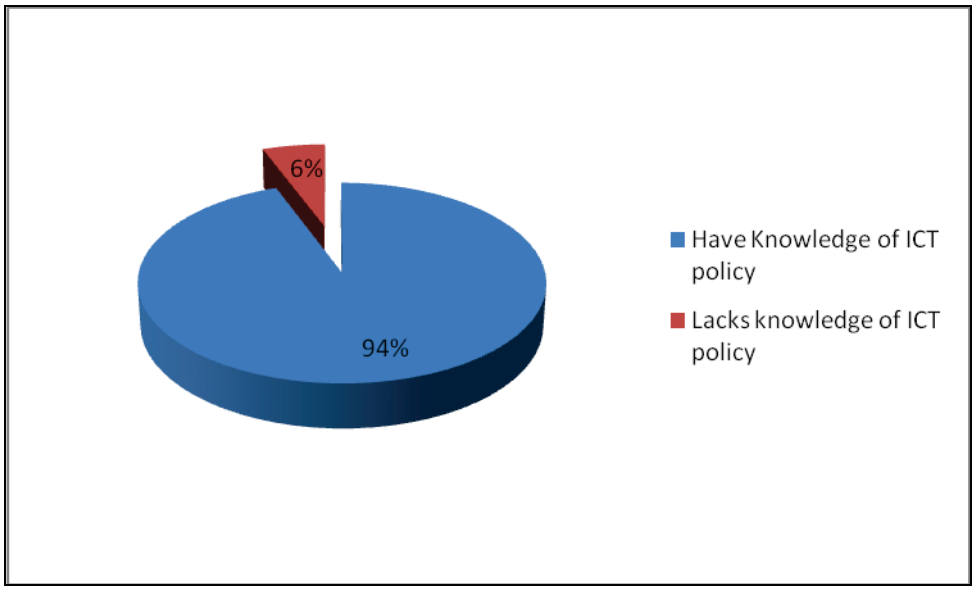
4.3.5 Knowledge of Government ICT policy

The study sought to know if the respondents were aware of the government initiatives in the ICT sector through the government ICT policy and other related e-governments projects. Most of the respondents (33) responded to having knowledge of the government ICT policy representing 94% while only 2 respondents had a contrary view representing 6% as indicated in the figure 7 below.

Figure 7: Knowledge of Government ICT Policy



CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDITIONS

5.1 Introduction

In this chapter a summary of the findings from chapter four were, discussed, conclusions drawn and recommendations of the study based on the objectives of the study which were to establish the impacts of ICT usage in the Ministry of Devolution and Planning.

5.2 Summary of the findings

From the findings, the study established that ICT use has immense benefits in an organization. ICT usage is viewed as a strategic tool (91%) while 89% viewed it as a key ingredient as a catalyst to spur innovation through integrated research. Additionally, ICT is viewed as an enabler to socio-economic development as well as a tool for communication purposes within the organization. This concurred with Mbarika et al., (2003); and Wresch, (1998) who observed that research has been shaped with awareness of the relentless ICT and organizational innovation taking place in advanced economies of the world— primarily North America and Europe—and of the increasing socioeconomic interconnectedness of all countries and regions globally.

The study also revealed that asynchronous tools (such as email) has the highest usage in the ministry (94%), computing tools and hardware such as laptops and desktops usage at 97%, social media with usage of 86%. However the use of synchronous tools such as Skype and knowledge base recorded low usage at 14% and 63% respectively.

5.2.1 Factors for success in ICT usage

From the finding, majority of the respondents indicated that the ministry's vision and strategy; government policies/support; external pressure and donor support; rising consumer expectations

and technological change, modernization and globalization as major factors that influence ICT usage success in the organization to a great extent as indicated by a mean of 4.63, 4.89, 4.97, 4.53 and 4.49 with standard deviation of 0.51, 064, 0.83, 0.51 and 0.59.

These finding appeared to concur with assertions by Moran (1998), Riley (2000), Doherty etal. (1998), Heeks (2003b), Mugonyi (2003), Heeks (2004) and Khaled (2003) who argued that government policies, technological changes and globalizations are the key factors that are enablers for successful usage of ICT.

5.2.2 Factors hindering successful use of ICT

The study established those poor infrastructure systems such as connectivity issues; limited finances; poor data systems; unskilled personnel working within ICT sector were largely considered as major factors hindering successful use of ICT within the ministry. Attitudes of the users of ICT tools were not highly considered as a major hindrance.

This concurred with Khaled (2003), Gakunu (2004), Aineruhanga (2004), Heeks (2003a), Ndou (2004), Bhatnagar (2003), Saul and Zulu (1994) who observed that these factors are constraints that hinder smooth implementation of ICT.

5.2.3 Benefits of ICT in the Ministry

The study sought to establish different benefits that are associated with ICT-led Ministry and from the findings, ICT can be used as a strategic tool, as a catalyst for spurring innovation within the ministry and communication and as enabler for social economic development. Besides it emerged that ICT can be used as a marketing tool and help the ministry to strategically position itself.

This concurred with many scholars such as Bailey (1997) who argued that ICT has changed and will further transform not only the nature of work and communications, but also the ways of organization of enterprise and business activity. It is thus expected that this technology will eliminate the existing limits between economic relations and interaction, and will create new ways of communications, new types of market relations and will provide new opportunities to mobilize activities and expand spaces of interaction.

Butcher (2010) agreed with the above observation when he noted that Butcher ICT can be used to tackle some of the challenges an organization and act as a key driver of development strategies. However, it requires sustained investment and strong alignment with systemic changes (in education, service delivery, and /or economic productivity. ICT can also be regarded as a potent tool in reducing poverty, extending health services, expanding opportunities and generally improving the quality of life. Additionally, a national policy framework to codify how ICT can and will be used for socio-economic development across the various spheres in government.

5.2.4 ICT tools used in the ministry

The successful use of ICT in the ministry does not occur in a vacuum and there are tools that make ICT use complete, without which usage becomes hindered. The study established the ministry staff use synchronous tools such as Skype, Google talk and video messaging recorded the lowest usage. However others tools such as computing tools (word processors, spreadsheet, presentation software, etc.); Hardware (lap tops, desk tops, faxes, telephones etc.), Asynchronous (email, blogs, podcasts, online forums, audio graphics etc.) recorded the highest usage. Other tools such as Knowledge Base (online magazines, journals, libraries etc.) and Technology (Web Cam, Bluetooth, iPod, USB, Portable Video Player etc.) recorded average usage.

5.3 Conclusion

To maximize the potential benefits of ICT usage in the ministry, agencies and departments, those involved in the design, implementation and management of ICT-related projects and systems in the ministry and the country at large must improve their capacity to address specific contextual; characteristic of the organization, sector, county or region within which their work is located (Avgerou and Walsham 2000). As literature reviewed suggests, successful usage of ICT depends on variety of factors such as government support, adequate finances, vision and strategies, technological change amongst others.

The benefits that accrue from ICT usage has been discussed and as elaborated in the literature review, ICT is nowadays being used for efficient communication, as a strategic tools, as an enabler for social economic development and more importantly as a catalyst to enhance research and innovation in an organization.

The successes for failures have also been discussed and they include poor ICT infrastructure, limited finances, negative attitudes were considered as major factors. It should also be stressed that as many arguments for ICT usage prove, ICT implementation is a complex exercise and more research is needed to identify challenges, good practice and solutions for successful usage.

5.4 Recommendations

From this study, it can be recommended that:

i. Owing to the increased importance of ICT led organizations, ministries, agencies and government departments to embrace technology for efficient and effective service delivery.

ii. The government to continue offering essential ingredients such as good ICT infrastructures, rules and policies without which ICT can be greatly be hampered.

iii. Staff be trained on ICT tools that recorded low usage within the ministry to enhance their usage. These tools include Skype, Google talk, MSN, Yahoo Messager and video Messaging.

iv. Adequate funding in the ICT sector and ICT-related initiatives for successful implementation.

5.4.1 Recommendation for further studies

This research study proposes that the students or the stakeholders who have an interest in ICT carry further studies on the role of government on enhancing ICT usage in the country. This is because the government plays a crucial role in the success or failure of ICT usage. It is further recommended that a comparative study be carried out in Kenya on how well Kenyans understand the benefits that accrues with e-governments initiatives against other developing countries such as Singapore.

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APPENDICES

QUESTIONNAIRE

Introduction:

My name is **Waithaka Daniel**. I am a graduate student at the Korea Development Institute (KDI) University, South Korea. This questionnaire is part of a research project designed to study the benefit of ICT usage in Ministry of Devolution and Planning. I would really appreciate your kind input in filling the short questionnaire so that I can collect the desired study data. Your answers will be used in the research project that I am undertaking of which a copy may be shared with you upon completion of the study. I would like to use your real name and organization name if possible. Please let me know whether you and your organization prefer to remain anonymous. The questionnaire will take about 30 minutes to complete.

PART A

1. a). Kindly tell me your name and the position in the Ministry…….
   ……
   b). How long have you been in the Ministry?.....

   c). Do you work full-time or part time in the Ministry?.....

2. Why did you choose to work with the Ministry?.....

   ……

   ……

3. The following are some benefits of ICT usage in any organization. Please rate them as used in your Ministry under the following guidelines:
   1. Very strongly agree
   2. Strongly agree
   3. Neutral
   4. Disagree
   5. Strongly disagree

	1	2	3	4	5
Access remote learning resource					
For communication purposes about the Ministry's events					
Managing Ministry's reputation					
Marketing integration purposes					
ICT as a catalyst for spurring innovation though research					
Boosting business in the national and international levels					
ICT as an enabler of social economic development					
As a strategic management tool					

4. How often use the ICT tools in your Ministry?

Very often	often	Not sure	Less often	Not at all

6. Please rate the following ICT tools in order of their use in your Ministry
1 to represent less used and 5 to represent mostly used,

	1(not at all)	2 (less often)	3 (not sure)	4 (often)	5 (very often)
Synchronous (Skype, Google talk, MSN, Yahoo Messager, video Messaging etc)					
Asynchronous (email, blogs, podcasts, online forums, audiographicsetc)					
Computing tools (word processor, spreadsheets, presentation softwaresetc)					
Knowledge Base (online magazines, journals,librariesetc)					
Social Media (Facebook, Twitter, My Space etc)					
Technology (Web Cam, Bluetooth, iPod, USB, Portable Video Player etc)					

Hardwares (lap tops, Desk tops, faxes, telephones etc)					

6. Does your Ministry have an established ICT department?

Yes [ ] No [ ]

7. How useful do you find ICT usage in your Ministry/Department/Agency?

[ ] Not at all useful

[ ] Not very useful

[ ] Not sure

[ ] Somewhat useful

[ ] Very useful

8. The following are factors that help ICT usage. Please tick them with the following: 1 to strongly agree to 5 strongly disagree.

Factor	Strongly agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)
Vision and strategies of the organization					
Government support					
External pressure and donor support					
Rising consumer expectations					
Technological change, modernization and globalization					

9. The following are some factors that hinder ICT usage in an organization. To what extent do you agree? Please tick appropriately.

Factor	Strongly agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)
Poor ICT Infrastructure					
Limited Finance					
Poor data systems and lack of compatibility					
Lack of skilled personnel					
Leadership styles, culture and bureaucracy					
Attitudes					

10. Are you aware of the National ICT policy?

(Yes) (No)

This final section is to see if the previous answers for various groups in the population differ. All answers are treated with confidentiality and only aggregated data for groups will be published.

What is your gender? [M] [F]

What is your age?

[ ] under 20

[ ] 20-29

[ ] 30-39

[ ] 40-49
[ ] 50-59

[ ] over 60

What is the highest level of formal education you have?

[ ] High school/college

[ ] Diploma

[ ] Degree

[ ] Post graduate

Thank you very much for your kind cooperation and taking time to participate in this interview.