

**INFORMATION COMMUNICATION TECHNOLOGY AS A STRATEGIC
ORIENTATION FOR SERVICE DELIVERY IN THE OFFICE OF THE VICE
PRESIDENT AND MINISTRY OF HOME AFFAIRS**

**BY
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DECLARATION

This management project is my own original work and has not been presented for a degree in any other university

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This management project has been submitted for examination with my approval as the senate supervisor.

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DEDICATION

This work is dedicated to my wife Anne for her continuous support and encouragement and to my daughter Kay .

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LIST OF ABBREVIATIONS

ICT	Information and Communication Technology
SWOT	Strength Weaknesses Opportunities Threats
GOK	Government of Kenya
GCCN	Government Common Core Network
LAN	Local Area Network
IFMIS	Integrated Financial Management Information System
EFT	Electronic Funds Transfer

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Information Communication Technology (ICT) envisages quite a variety of meanings, systems and usages. Globally, every government is involved in processing of data and generation of information in its daily activities. Improvements in ICT are revolutionizing the way the public sector performs its activities and also the manner in which organizations compete. The advent of the information age and its acceleration effect on globalization are leading the world to a new economic order driven by information and knowledge based economies. As years go by, the world is becoming increasingly globalized, where ICT has now become one of the key accelerators and determinants of growth. Many African countries, Kenya being one of them are leveraging ICT, in a concept known as e-government to enhance service delivery for its internal and external clients.

In embracing e-Government, the developed economies have accelerated their growth by creating ease of access and delivery of public services. Innovative use of information and communication technology based information can result in better service delivery, an informed society and ultimately better economic performance at all levels. In Kenya, the e-government secretariat was established in June 2004 under cabinet office with its overall goal being to spearhead implementation of e-Government strategies with an aim to make the government and its ministries more result oriented, efficient and citizen centered.

1.1.1 ICT as a strategic orientation

Strategic management is an ongoing process that evaluates and controls the organization and industry in which an organization operates. Strategic management tools are varied. While the Balanced score card system is used to align business activities to the vision and mission of the organization, strategic stakeholder management brings in a new reality to strategy, where strategy needs not to be developed for “customers” as is traditional, but for all of an organization’s key stakeholders.

The strategy formulation is the action stage of strategic management and is the process of determining appropriate courses of action for achieving organizational objectives, thereby accomplishing organizational purposes. Other tools are like the Strength Weaknesses Opportunities Threat (SWOT) analysis where an organization assesses its weaknesses and strengths and finds opportunities for growth. The innovation strategy management explores the use of technology to improve the services of an organization and has become quite a common strategy in the emerging innovation economies.

The goal of innovation strategy is to choose and do the right things and to implement the strategy well. Implementation of ICT and particularly E-government is one fundamental element in the modernization of government business processes. It provides a competitive edge in service delivery across the civil service, enhances collaboration in public sector organizations and institutions, interaction of government and business community and between government and the citizens that it serves in line with vision 2030.

ICT is a vital catalyst for social change and economic development. It is increasingly seen as a tool for developing countries. The Government of Kenya (GOK) had identified the need for a comprehensive understanding of ICT and ICT related initiatives in order to support its activities, ensure greater coherence, develop and refine a more effective national ICT programme and optimise decision- making and allocation of resources.

1.1.2 Nature of the ministry's service delivery

For a long period of time, service delivery in the Office of the Vice President has been slow and cumbersome. This has been due to its manual systems and lack of proper strategies in its business processes and project implementation. The ministry has also operated in an environment where it has no competitors hence its previous poor performance.

But all this has changed, given the competitive and ever changing global environment. It has adopted the innovative management practise as is evident in its recent efforts at

embracing technology. ICT and indeed e-government is one of the pillars in achieving its long term strategic goal as outlined in the vision 2030. However, a study has not been carried out to assess the impact of ICT and e-government on service delivery within the ministry.

1.2 Statement of the problem

Various e-government initiatives have been undertaken by the government at great costs. Priorities were set out including information and communication technology infrastructure which has been developed in stages, so as to enable the interchanging of information.

Currently, all the government ministries are fully cabled with functional Local area Networks (LANs) and interconnected with high speed fiber connection commonly known as Government Common Core Network (GCCN). This has necessitated implementation of robust integrated financial systems, citizen information databases, websites, discussion forums, online feedback and complaints systems, email systems e.t.c. All this has been done with the aim of improving service delivery between Government ministries and their internal clients and the public. The Office of the Vice President and Ministry of Home Affairs is a beneficiary of these initiatives.

Kemoni (2009) in his empirical study on management of electronic records and e-government strategy purposely to improve service delivery in public institutions covered the East and Southern African countries namely South Africa, Lesotho, Botswana, Namibia, Kenya and selected Sub-Saharan Africa countries. The empirical research findings indicate most countries in this region lack capacity and face various challenges in managing electronic records and strategy. These relate to: lack of policy and legislation, standardization, authenticity, capacity building, physical infrastructure and lack of awareness among recordkeeping professionals and government authorities on electronic records management issues

Outa (2006) in his study “Mainstreaming ICT for service delivery” attempts to assess the level of satisfaction with the e-delivery of services that users receive from the Government and its agencies. A quarter of the respondents said they obtained desired

information and services from government institutions through websites while three quarters said they received the needed information and services from the government through either hand delivery or surface mail. Of significance is the fact that only 25 percent get their information online. The results of the study confirmed the low level of use of e-government models.

Njoroge (2007) did a study on the effects of a central government procurement system on service delivery. IT connectivity and system use did not get a good score as per the findings of the study. Of the respondents, less than half indicated that the level of preparedness for the system was high while a few of this group indicated “Not at all” and the rest of this minority remained neutral.

Njeru (2007) studies the effect of Training and sensitization on service delivery at Office of the Vice-President Ministry of Home Affairs. Form four certificate is the minimum academic level required for the Kenyan government. This is the entry level for government operatives and most of the courses and seminars arranged in the ministry target this group. The study therefore gives them more prominence. The study finds out that most of the form four graduates state that do not know why they do what they do. They say they have been working the way they do as this is what they learned from others. A large number of this group state that they require to be given professional skills (IT included) so as to enhance service delivery. It was also noted that a majority of them looked at training as a source of motivation for service delivery.

This study therefore aims to find out if service delivery has been enhanced for the government’s internal and external clients as a result of government’s adoption of ICT as a strategic orientation.

1.3 Research objective

The objective of this study was to determine whether ICT as a strategic orientation has improved service delivery for the ministry’s internal and external clients.

1.4 Importance of the Study

The study was meant to find out whether the investments the ministry has made in ICT in have been worthwhile and whether service delivery has been consequently improved . The study sought to identify any arising issues, with the sole objective of providing information which can be used in future to address any of the shortcomings, thereby enabling the ministry to realise the full potential of ICT. This study therefore acted as an assessment report on the use of ICT as a strategic orientation for service delivery in the ministry.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

E-government can be defined as actions and activities carried out by governments for better administration and management using information and communication technology tools such as Automated systems, Computers, Scanners, Multimedia facilities and so on. It uses improved telecommunication technologies to make it easy for citizens to interact with the government.

According to Kolochalam (2002) E-Government includes four main areas of activities that are very vital for its functionality these areas are: Government to Government (G2G), Government to Business (G2B), Government to Citizen (G2C) and Government to Employee (G2E). E-Government gives new public management fresh blood. Not only does information and communication technology provide the infrastructure and software tools needed for a Local Area Network (LAN) of government units to collaborate effectively, the infiltration of these government agencies tends to lead naturally to institutional reform, since it is difficult to maintain strict channels of communication and control when every civil servant can collaborate efficiently with anyone else via the internet. He further states that e-Government is not only or primarily about reforming the work processes within governmental institutions, but rather about improving its services to and collaboration with business and professionals, community, non profit and non-governmental organizations, trade unions, political parties, churches and public interest groups (Gordon ,2002)

Developed countries such as Canada, Singapore and New Zealand are among the top twenty leading countries in relation to e-Government. In Singapore for example, citizens can pay parking tickets, job seekers can search for employment, people can change their postal addresses, debtors can petition for bankruptcy and public trustees can file an application for estate administration using opportunities provided by e-Government. Singapore's project was built on strong information and communication technology foundation and a dynamic e-Government action plan. Canada's e-Government project tapped on high level of connectivity and high information and communication technology literacy or e-literacy levels of Canadians.

E-Government is attainable so long as a Government has sound information and communication technology infrastructure, clearly defined e-Government strategy and vision, information literacy and e-literacy and also connectivity. Most of the developed countries have managed to achieve most of the priorities in E-Government due to the above mentioned and also enabling political and economic environments.

E-Government represents the introduction of a great wave of technological innovation as well as government re –invention. It represents a tremendous impetus to move forward in the 21st century with higher quality, cost effective government services and a better relationship between citizens and government (Fang, 2000). Many government agencies in developed countries have taken progressive steps toward the web and information and communication technology use, adding coherence to all local activities on the internet widening local access and skills, opening up interactive services for local debates and increasing the participation of citizens on promotion and management of the territory (Graham and Aurigi, 1997).

2.2 ICT Innovation

Marcus (2004) developed a model which asserts that potential adopters of innovation evaluate the possible 'value' that the innovation has to them. This value can be measured in terms of 'cost' and 'benefit', with the value being determined by the balance of these two factors. Marcus also introduces the importance of 'resources' and 'communication'. Thus, personal and institutional factors combine to determine adoption of an ICT initiative. Personal factors that determine the adoption of ICT initiatives are costs, effort to acquire new skills, time, resources, necessary skills, prior experience with similar innovation, risks of failure, loss of self-esteem and loss of social approval. Institutional factors include resources, equipment, finances and training.

A critical examination of the social, economic, technical and policy issues relating to the IT industry in Nigeria, by Alabi G.A et al(1996) discusses Nigeria's information - telecommunications sector, the status of science and technology, the constraints to telecommunications development, and the 'infrastructure in development, including capacity-building. Describes the framework developed for 'national communication policy' and ongoing initiatives in telecommunications development. There is a

detailed discussion of initiatives to increase human resources in the IT field - for example, the Regional Informatics Network for Africa (RINAF). The author recommends that, in the case of IT, the government must establish a clear set of national objectives, such as universal services, technological leadership, and broadband capability into all population centres, through a comprehensive and up-to-date 'National Policy for Telecommunications and Information Technology', Alabi (1996). ICT policy here defined as “an integrated set of decisions, guidelines, laws, regulations and other mechanisms geared to directing and shaping the production, acquisition and use of ICT packages, components and knowledge base.

Alemna (1999), a Ghanaian describes the usual opportunities and challenges, such as wider access to research opportunities, distance learning, appropriate content and access to hardware. The main barrier identified is the absence of national information policies. Recommends the formulation of these policies and suggests that external support should be sought to develop 'information network infrastructures'. Alemna (1998) decried the lack of information policies for information development in African countries. The importance of oral traditions in Africa as a source of information is discussed, the main argument being that there is a great deal of information within Africa that could be useful for development if it were appropriately accessed. It is recommended that governments should allocate financial resources toward documenting such information.

2.3 ICT Adoption in Kenya

The Daily Nation of Kenya of 4th December 2008, page 33, carried an article with the title:

“There is no need for children in rural areas to travel to distant towns to learn ICT”

Mundeku Village in Butere District has every mark of a rural Kenyan setting, but it is not an ordinary village anymore because of a life changing encounter with Information Communication Technology (ICT). It now boasts of a digital village, the first in Western Province, of the Republic of Kenya, complete with internet. Ironically such facilities are not available in most Kenyan Universities including public ones.

On the same issue, The Standard News paper of Wednesday December 3, 2008, page 25 carried an article with the heading “*Are Kenyan Varsities empty academic shells?*” The article pointed out the disparity and emptiness of these Universities in relation to the use of ICT in their work in the same paper, there was also a World Bank, report that “*World Bank Report Blames Sub-Sahara Africa’s economic failings on its inability to mobilize and fully use ICT knowledge*”. These calls for Universities to adopt ICT in its teaching process in order to keep abreast with the current world technological changes and impart the necessary skills to the public sector which is a subset of the government.

2.3.1 Institutional Framework for Change Adoption

Both personal and organisational processes influence a culture of innovation. Denning (2004) lists these organisational processes as: "management values, rewards, prohibitions, encouragement of new ideas, encouragement of risk-taking, and the like". To this list we can add services, support, communication channels and staff networks. An institution with these key components in place is better placed to ensure that innovations are facilitated, encouraged, accepted and diffused across its campus. Thus, the institutional environment shapes the development of the ICT initiative, its adoption and implementation. Culture also affects the success or failure of a new ICT innovation. As Denning states:

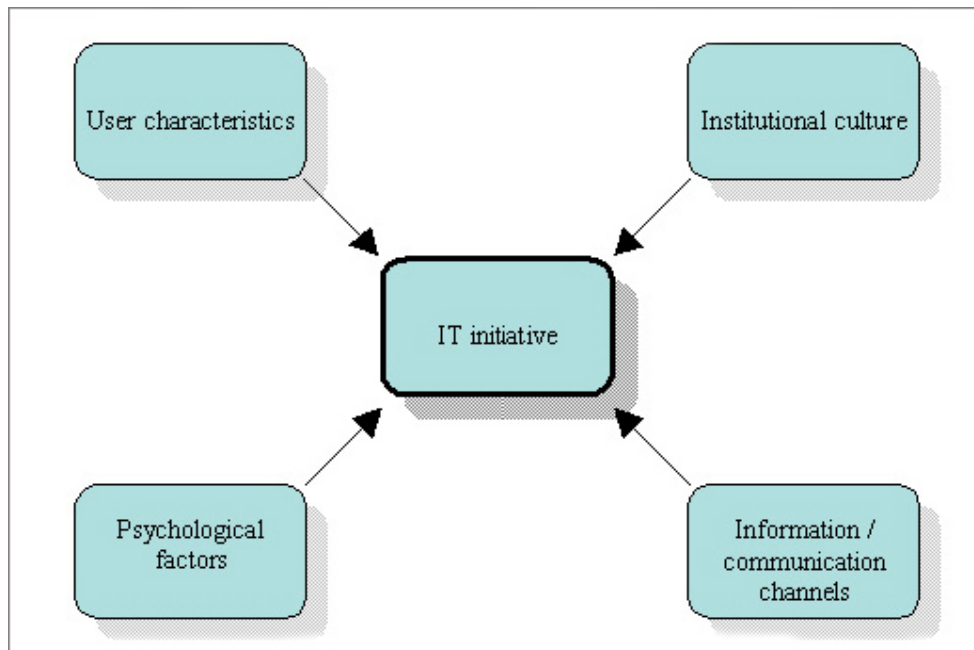
"In a culture of innovation, people will have a habit of constantly looking for ways to improve things", Denning, (2004).

Organisational culture can be seen as the "values and beliefs shared by personnel in an organisation", Martins and Terblanche (2003). These cultural beliefs translate into "communication and mutual understanding" and they influence the beliefs and behaviours of individuals. Martins and Terblanche state that: "Organizations use different resources and processes to guide behavior and change". This emphasizes the importance of the pervading culture within an organization in relation to the degree of acceptance of a new innovation, Martins and Terblanche (2003).

Martins and Terblanche have devised a model to show the influence of organizational culture on creativity and innovation, Martins and Terblanche (2003). They view the main determinants as being: strategy, structure, support mechanisms, behaviors that

encourage innovation, and communication. The model highlights the requirement for institutions to encourage: flexibility, autonomy and co-operation at the structure level; reward, recognition and resources at the support mechanism level; support for risk taking, change, learning and conflict handling at the behaviours that encourage innovation level ; and finally open communication.

Figure 2.1 Broad framework for change adoption



Source: Adopted from Marcus Theoretical model of adoption (2004)

Each of the sections illustrated in Figure 2.1 has a variety of conditions or factors associated with it, as do individuals and groups affected under each section. Some of these influential conditions include, allocation of support staff, benefits, cost (personal), Drivers for change, existing solutions, matters relating to employment, maturity of the technology, political climate, sufficient funding and sufficient numbers of practitioners willing to investigate an innovation.

Two important determinants are 'push' and 'pull' factors. Institutional push factors might be rewards offered by an institution to encourage the adoption and use of a new innovation, or mandate to enforce adoption. Personal pull factors include the

perceived need for the resource and the benefits to be gained by using it. The institutional framework is bounded by external influences, which in turn influence decisions taken at institutional, administration, department and project level. The strength of the boundaries between administration and departments, or the existence of cross-disciplinary collaborations can affect diffusion of innovations across an institution.

2.3.2 Challenges in ICT Adoption

This study does not underestimate the difficulties involved in innovation and change. Marris (1986) parallels the sense of loss during bereavement to the resistance one can feel when letting go of known ways of doing things and embarking on new strategies. For many officers the increasing emphasis on the use of computer technology for administration, research and teaching is highly threatening. There is need to recognise these fears and devise plans that build staff confidence and motivation, and provide adequate support and training opportunities.

Staff development can no longer be a pleasant ‘cottage industry’ on the fringes of academe or the enthusiastic enterprise of a few individuals supported by ‘soft’ money. Effective staff development is positioned at the centre of an institution’s functioning and yet needs to retain connections with the needs and perceptions of staff. This is a demanding challenge. Staff development programs that are successful in meeting the needs of modern governments need to be supported strategically (and financially).

The number of players in the staff development area is large e.g more ‘traditional’ development units concentrating on general organizational functions and business process support; these can be centrally located or within departments. Units where the key focus is the use of communication and information technologies in service delivery. These can be centrally located or within departments, centrally-based Information Technology Services units. The appropriate balance point between centrally provided and local staff development services needs to be determined. Central services can be more clearly linked to institutional priorities; department services can be more in touch with local needs.

As technology becomes mainstream, support services need to be scaled up. This involves deciding on the level of support that can be afforded and the model of support that is most apposite. However, by modelling good practice themselves, mentors can assist staff to make optimal use of resources. A follow-on issue is determining the optimal relationship between staff development and production support services. General staff work load is a key issue. Careful work planning to ensure that staffs have time to learn new skills and manage new processes is essential. We are in a time of rapid change. It is important that staff development support be flexible, appropriate and adaptable. It should make sense to staff, be linked to practice and be appropriately timed.

2.4 ICT Usage Models

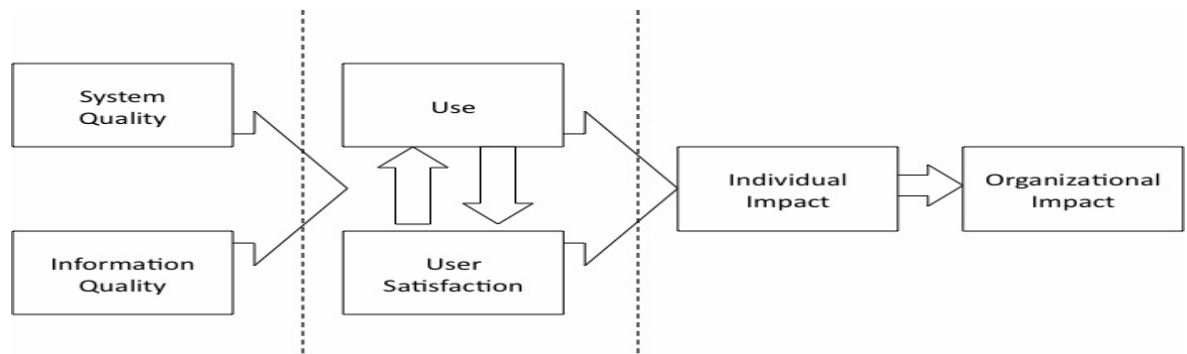
Adoption of ICT in the organization is a major undertaking that requires consideration of various factors for successful implementation of the systems. The following are some of the models that have been used to during the implementation and adoption of ICT in organizations.

2.4.1 Delone and Mclean IS success Model

Delone and Mclean (2003) made significant breakthrough when they undertook a comprehensive review of Information Communication Technology system and their success were able to propose a model that could be able to evaluate multi-dimensional aspects that are integrated an ICT systems. This model identified six interrelated dimensions of Information System (IS) success. It proposed that the dimension of IS success can be represented by the system quality, the output information quality, consumption (use) of the output, the user's response (user satisfaction), the effect of the IS on the behavior of the user (individual impact), and the effect of the IS on organizational performance organizational impact). This model provided a system for classifying the multitude of IS success measures and suggested the temporal and causal interdependencies between the six dimensions (Petter and McLean, 2009:1).

The model is shown below:-

Figure 2.2 Information Systems Success Model



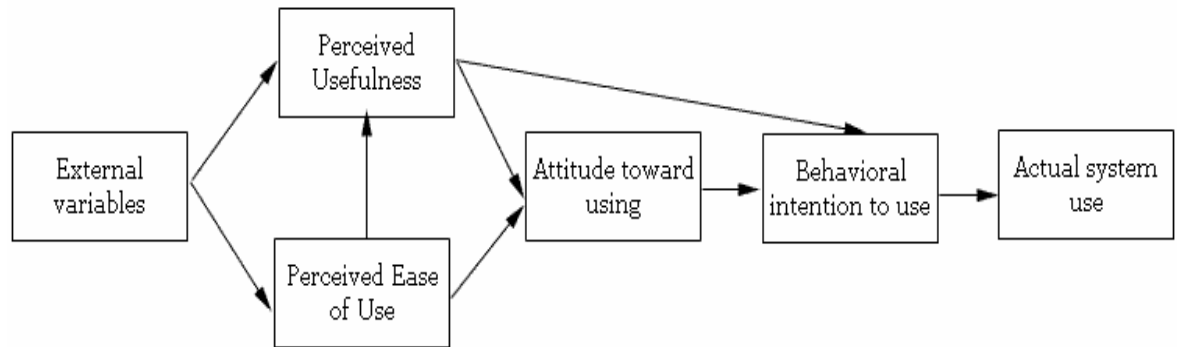
Source : Delone & McLean (1992)

2.4.2 Technology Acceptance Model

Based on the theory of reasoned action (Davis 1986:2) developed the Technology Acceptance Model (TAM) represents an important theoretical contribution toward understanding IS usage and IS acceptance behaviors and explains how users come to accept and use ICT. Studying the acceptance and use of ICT has been the focus of many studies in IS research and among a variety of theoretical perspectives to explain the adoption and usage of IS, the technology acceptance model (TAM) is popularly used to explain the user's intention to adopt a target information system (Davis and Wiedenbeck 2001:553). The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it, notably the perceived usefulness and perceived ease of use (Kim et al., 2009:8529)

Perceived usefulness (PU) is defined as the degree to which a person believes that using a particular Information System could enhance his or her job performance. It is the extent to which an individual believes that using the ICT enhances his/her performance (Davis, 1989:320). Perceived ease of use (PEU) refers to the degree to which a person believes that using a particular system is free of effort. Previous research has shown that individuals are more likely to use a new ICT if they perceive that it is easy to use (Davis, 1989:320). The model is shown below.

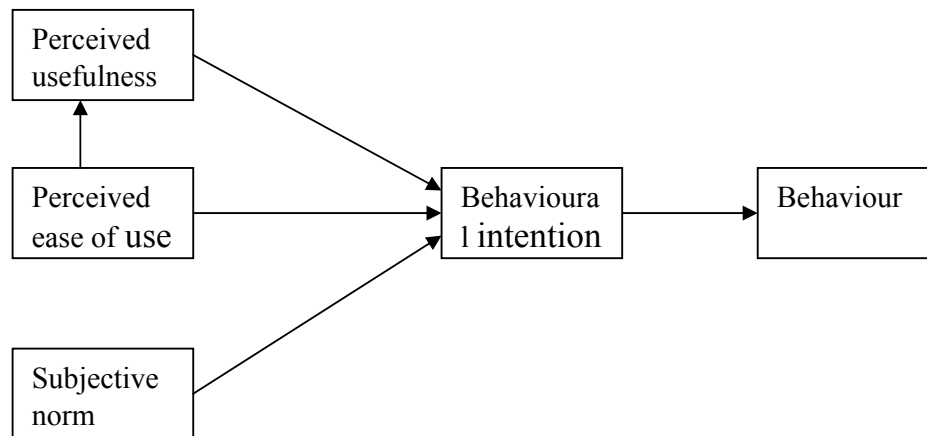
Figure 2.3 Technology Acceptance Model (Model Davis, 1986)



Source: Hamner and Qazi, (2009:129)

The technology acceptance model has been considered as the most comprehensive attempts to articulate the core psychological aspect associated with technology use based on the generic model of attitude and behavior. The model Technology Acceptance Model has been widely adopted and there have been previous researchers who have used this model to evaluate different aspects of successive implementation and adoption of ICT hence making the model very important in the field of ICT (Liaw, 2007:865) and (Davis and Wiedenbeck 2001:549:).

Figure 2.4 TAM with the extension of subjective norm



Source: Adapted from Venkatesh & Davies, (2000)

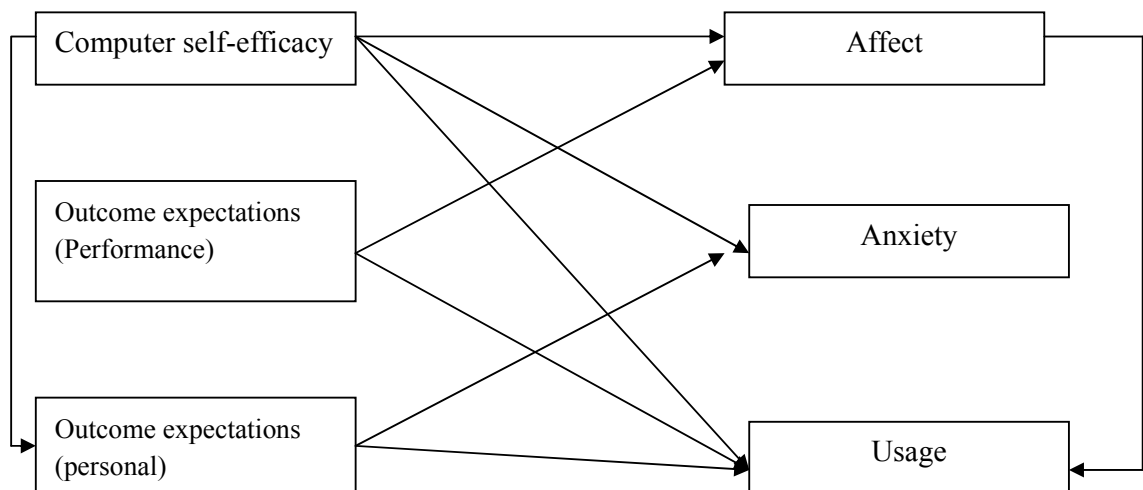
Research indicates that perceived usefulness and subjective norm influences the behavioral intention to use an information system in a positive way. The more important to the user, e.g., workers, believe that it is appropriate to use the information system, the more likely -the user is to accept and use the system. Perceived ease of use has been shown to have an effect on intention in two ways; a

direct effect on behavioural intention and an indirect effect on perceived usefulness (Venkatesh & Morris, 2000).

2.4.3 Social Cognitive Theory (SCT)

Social cognitive theory was originally developed by the social psychologist Albert Bandura. The information system researchers Compeau *et al.* (1999) have developed a research model of computer usage based on Bandura's theory. The research model of social cognitive theory is depicted in Figure 2.4. Central to SCT is the concept of *computer self-efficacy*, defined as the individual's belief about his or her ability to use computers. The variable of *outcome expectations* has two dimensions. *Performance related outcomes* are those associated with improved efficiency and effectiveness in job performance. *Personal outcome expectations* are related to change in image, status and rewards depending on computer usage. *Affect* represents positive affective responses to computer usage, while *anxiety* mirrors negative responses. *Usage* represents the degree of use of an information system. *Self-efficacy* and outcome expectations are independent variables, influencing the dependent variables of affect, anxiety and usage. The relationships between the variables are complex. Self-efficacy influences affect, anxiety and usage directly. It also influences usage via outcome expectations and affect (Compeau *et al.*, 1999).

Figure 2.5: Social cognitive theory (SCT) Research Model



Source: Compeau *et al.*, (1999)

2.4.4 Summary

There are numerous conditions to be met before ICT innovations can be introduced, adopted and diffused through an institution. By investigating a range of theories devised to describe and understand attitudes towards, and uptake of, ICT innovations, a number of key factors in a framework for early adoption have been identified. These key considerations are associated with early adopter characteristics, communication channels, features associated with the innovation, scale and source of the initiative, the time-scale for introduction of the new product, and a range of institutional characteristics and processes. Institutional factors include cultural values management and personnel, communication and social networks, provision of suitable support, a safe environment for the exploration of new technologies and for creativity, as well as recognition and reward.

Influences from outside the institution also have an impact on adoption of ICT. External influences, such as the political climate and the aims of funding bodies, are broader in scope but no less important in setting the scene for new initiatives. This chapter has explored literature on the adoption of ICT in organizations and specifically in government.

The literature reviewed perspectives of implementation are compared in Table 2.1 according to basic concepts, how the ICT and its users are regarded, and whether the perspective considers the different roles of workers. The perspective of technology acceptance deals with individual variables measured at specific points, while the other two perspectives take a process view of implementation. The ICT is seen as a new technology, an innovation or as a boundary object. The user of the ICT is seen as individuals, as organizations or as different communities of practice.

The perspectives are compared in Table 2.2 according to implications for successful use and implementation of ICTs. According to the perspective of 'implementation as technology acceptance', the user must experience perceived usefulness and perceived ease of use. The ICT must enhance the delivery of services, both on behalf of the civil servants and the public. The importance of self-efficacy means that the individual's belief of his or her ability to use computers directly influences the intention to accept

and use the ICT, hence improve on service delivery Drawing on this summary, computer training for staff and public is a necessary element in implementing ICTs.

Table 2.1: A Comparison of the Presented Implementation Perspectives

	Implementation as technology acceptance	Implementation as diffusion of innovations	Implementation as a learning process
Basic concepts	Variables influencing decisions of acceptance or rejection by individual users at specific points	The individual decision process of adapting an innovation The diffusion process of innovations in organizations	The learning process of different communities of practice within an organization
Regards the ICT as:	A new technology to be accepted or rejected by users	An innovation to be diffused in an organization	A boundary object connecting different communities of practice
Regards the users of the ICT as:	Individual users making personal decisions of accepting or rejecting a technology	Individuals making personal decisions of adopting or rejecting an innovation; an organization adopting or rejecting an innovation.	A boundary object connecting different communities of practice interacting through a boundary object

Source: Compeau *et al.*, (1999)

Table 2.2: Implications for Successful use and Implementation of ICTs

	Implementation as a technology acceptance	Implementation as diffusion of innovations	Implementation as a learning process
Implications for successful use of the ICT	The ICT should: enhance the resolving of business process tasks; be easy to use; improve user's self-efficacy	The ICT should: fill a performance gap; create positive visible outcomes; be consistent with existing beliefs; be less complex to use	The ICT should: provide modularity., abstraction, accommodation and standardization; support informal communication; be designed for participation
Implications for successful implementation process	The implementation process should be supported by: formal and informal leaders; a reliable technological infrastructure	The implementation process should: be internally induced; be based on a consensus decision; provide possibilities of trying the ICT beforehand	The implementation process should: allow peripheral participation; consider the impact of the ICT on different communities of practice

Source: Kim et al., (2009)

2.4.5 Analyzing the ICT Models

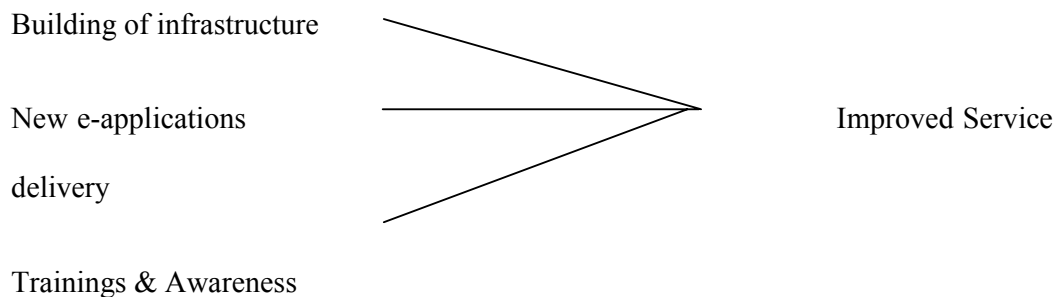
As ICT gains attention, it is important to establish an appropriate framework for research to enhance the effectiveness of this new trend. This study establishes the relevance of applying the above models theories for ease of adoption of ICT in the institutions as each model stresses a different aspect to be considered for success implementation of IS. Satisfaction and usage of ICT are one of the import concepts in the success of adoption of IS which have attracted a great deal of research in the past.

2.5 Rationale for Choosing the Variables

The need for improved service delivery and an ever demanding population in a globalised economy has necessitated the ministry to embrace the use of ICT to achieve e-government and meet the expectations of its clients through improved services. It is from this point of view we analyze the roles that building of infrastructure, new e-applications for better communication and efficient transactions, increase in the level of trainings and awareness in ICT play in service delivery. Even though service delivery in the ministry is affected by various factors, consideration has been given to the variables in the conceptual framework to be the critical factors for this study.

Conceptual framework

FIGURE 2.6 The conceptual framework



2.5.1 Ministry's Service Delivery

This can be defined as the way the ministry harnesses the use of ICT, and in particular the network connectivity, availability of e-applications and the levels of ICT training and awareness to improve service delivery.

2.5.2 New e-applications

E-applications here refer to the websites the financial management system (IFMIS), the electronic funds transfer system used for payments and how they have facilitated

the ministry in its quest for improved service delivery in terms of communication, internally and externally and payments to its internal and external clients.

2.5.3 Increase in the level of trainings and awareness

The ministry has endeavoured to train its officers and raise awareness about ICT usage and its impact on service delivery. The thrust is to identify whether all the training and awareness has had an impact on service delivery.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

The study was a survey and involved the use of questionnaires. Surveys represent one of the most common types of quantitative, social science research. In survey research, the researcher selects a sample of respondents from a population and administers a standardized questionnaire to them. In this study, the questionnaire, or survey, was a written document that is completed by the person being surveyed. Surveys make it possible to collect data from large or small populations.

Survey research does not belong to any one field and it can be employed by almost any discipline. Surveys are relatively inexpensive (especially self-administered surveys) and useful in describing the characteristics of a large population. No other method of observation can provide this general capability. Consequently, very large samples are feasible, making the results statistically significant even when analyzing multiple variables. Many questions can therefore be asked about a given topic giving considerable flexibility to the analysis. These factors make it the research design of choice for the proposed study.

3.2 Population

The survey target population were the civil servants in the Office of the Vice President and Ministry of Home Affairs as the internal clients and suppliers and contractors as the external clients. A population can be defined as including all people or items with the characteristics one wishes to understand.

3.3 Sampling

The samples were selected from the members of staff, contractors and suppliers in Nairobi Province. The sample held the key information regarding service delivery in the ministry. The cadres of staff that were sampled were varied, including senior executives, middle level managers and supervisors. The systematic random sampling method was used for the internal clients who are the staff of the Ministry of Home Affairs in the selection of the samples from the sample frames. This gave all the elements of the study an equal chance of being selected in the sample. The researcher picked randomly from any pre-selected position on the sample frame then

systematically picked the unit. The convenience sampling method was used in the selection of the suppliers and contractors as the external clients.

3.4 Data collection

The researcher administered questionnaires to the respondents. In this study, the questionnaires were administered to fifty (50) respondents. Forty (40) questionnaires were administered to the internal clients while ten (10) questionnaires were administered to external clients.

Sunder et al., 2000 explained that when you are conducting a survey, questionnaires are administered in different ways according to the amount of the contact you have with the respondents. He stated that the questionnaires are self administered either, online, postal or delivery and collection one.

3.5 Data analysis

Data analysis was done after all the data was collected. The data collection instruments were analyzed quantitatively using data analysis software. Quantitative analysis is the process of presenting and interpreting numerical data. Quantitative data analysis often contains descriptive statistics and inferential statistics.

Descriptive statistics include measures of central tendency (averages - mean, median and mode) and measures of variability about the average (range and standard deviation). These give the reader a 'picture' of the data collected and used in the research project.

Inferential statistics are the outcomes of statistical tests, helping deductions to be made from the data collected, to test hypotheses set and relating findings to the sample or population. The data collected will be presented in pie charts/graphs and tables.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the data analysis and interpretation; the findings have been presented using tables and graphs. Frequencies and percentages have also been used for easier interpretation. The chapter has analyzed demographic data as well as data on ICT factors that have an impact on improvement of service delivery. The data analysis was done for two groups of respondents, the internal and external clients.

4.2 External respondents

The external respondents were the ministry's suppliers and contractors within Nairobi.

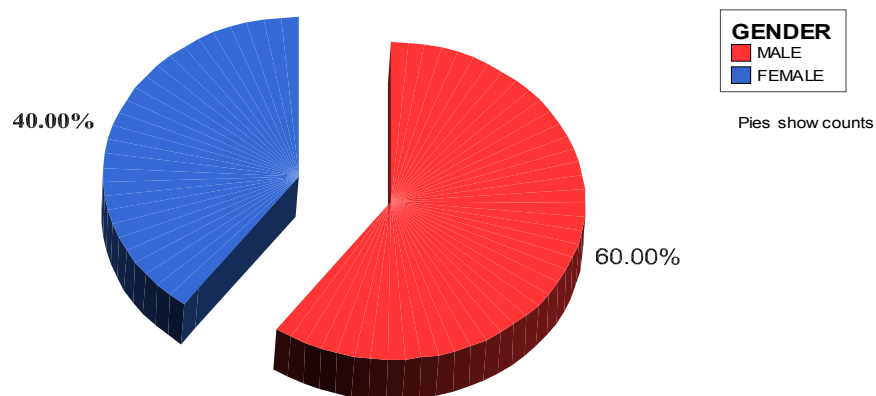
4.2.1 Demographic Information

The findings indicate that a majority of the external respondents were male, represented by 60% while the female were 40%. These findings have been presented in the figure below.

Table 4.1: Gender of the respondent

	Frequency	Percentage
MALE	6	60.0
FEMALE	4	40.0
Total	10	100.0

Figure 4.1 Gender of the respondent



4.2.2 Availability of computer systems and websites

In finding out how availability of computer systems and websites has affected service delivery in the ministry, the questions shown below were posed to the respondents:-

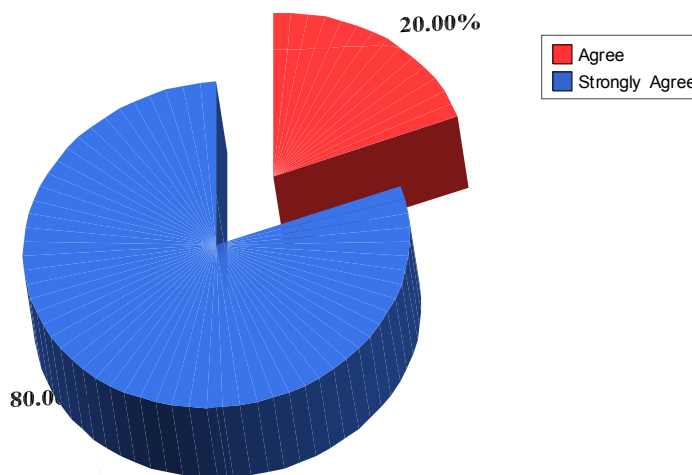
- (i) The use of Electronic Funds Transfer (EFT) has enabled efficiency in payment of suppliers.

The results show that 20% of the respondents agree that the electronic mode of payment has enabled efficiency in payments while 80% of the respondents strongly agree to the same. Table 4.2 presents the findings.

Table 4.2 Availability of computer systems and websites

	Frequency	Percent
Agree	2	20.0
Strongly Agree	8	80.0
Total	10	100.0

Figure 4.2 Availability of computer systems and websites



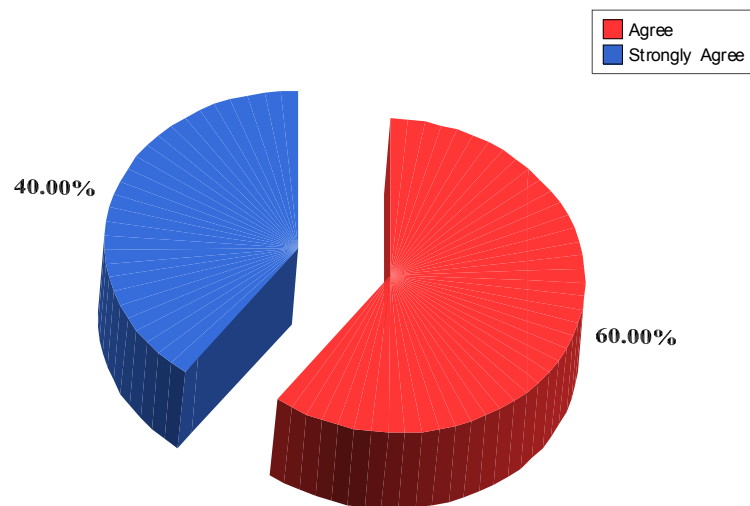
(ii) You are able to access the ministry's tender information online.

The results show that 40% agree, while 60% strongly agree that they are able to access the ministry's /departments' tender information online. The table below presents the findings.

Table 4.3 You are able to access ministry's tender information online

	Frequency	Percent
Agree	6	60.0
Strongly Agree	4	40.0
Total	10	100.0

Figure 4.3 You are able to access the ministry's tender information online



4.2.3 Ministry's processes.

The respondents' opinions were sought on whether they thought that the use of ICT has improved service delivery or whether the ministry should continue using the manual systems. The questions are as shown below:

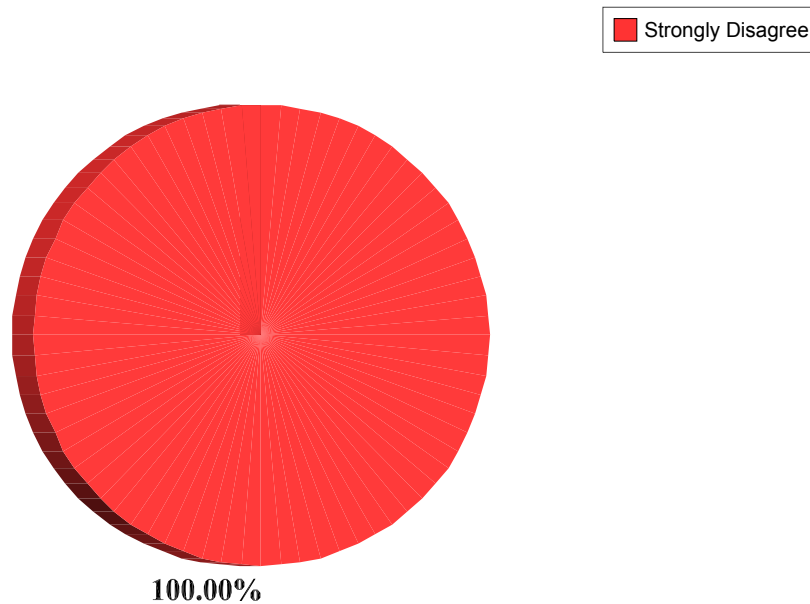
- (i) The ministry should continue using manual systems as they are better and more efficient than the ICT based systems.

The results show that 100% of the respondents strongly disagree that the ministry should continue using manual systems. They also dispute the fact that manual systems were better and more efficient. The table below shows the results

Table 4.4 The ministry should continue using manual processes as they are better.

	Frequency	Percent
Strongly Disagree	10	100.0

Figure 4.4 The ministry should continue using manual processes as they are better



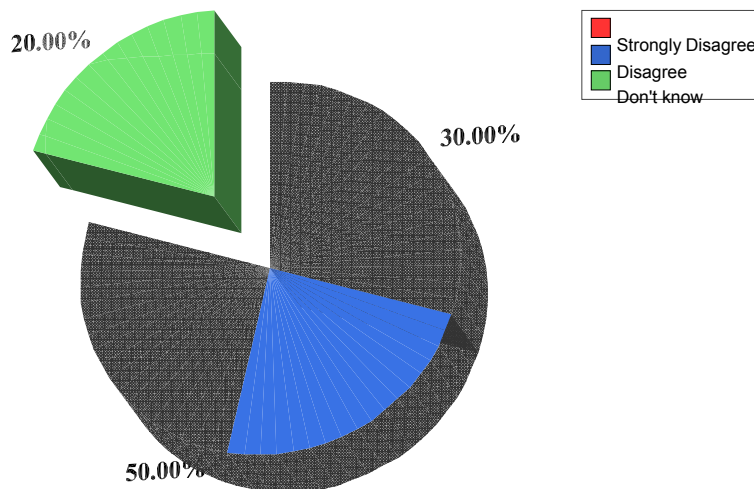
(ii) The use of ICT and e-government has NOT improved service delivery and efficiency.

On whether the use of ICT has not improved service delivery and efficiency, 20% of the respondents said that they do not know, 50% of the respondents disagreed while a further 30% strongly disagreed. The results are as shown in the table below:

Table 4.5 The use of ICT and e-government has not improved service delivery

	Frequency	Percent
Strongly Disagree	3	30.0
Disagree	5	50.0
Don't know	2	20.0
Total	10	100.0

Figure 4.5 The use of ICT and e-government has not improved service delivery



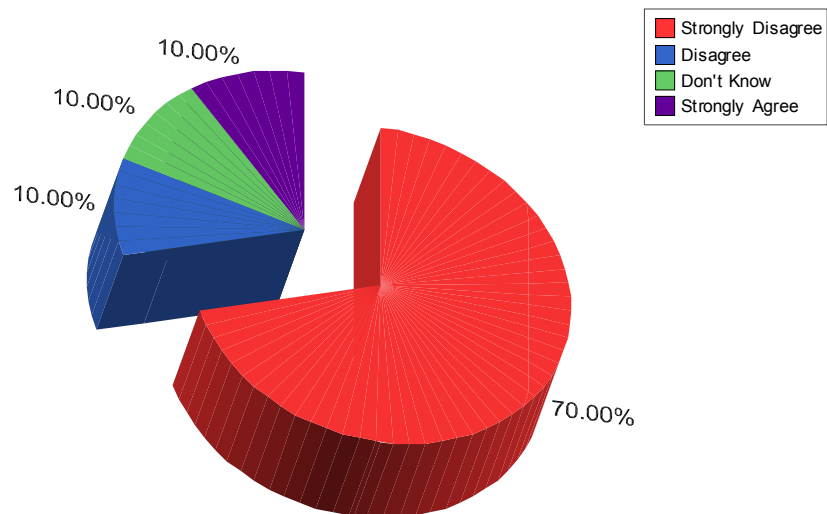
(iii) The ministry's service delivery was better and more efficient before the introduction of the use of ICT in its processes.

A majority of the respondents, 70%, strongly disagree that the ministry service delivery was better and more efficient before the introduction of the use of ICT in its processes. 10% of the respondents disagree and a further 10% don't know whether service delivery is better with the introduction of ICT or not. But 10% of the respondents actually agree that the ministry service delivery was better and more efficient before the introduction of ICT. The results are as tabulated:

Table 4.6 Service delivery was better and more efficient before introduction of ICT.

	Frequency	Percent
Strongly Disagree	7	70.0
Disagree	1	10.0
Don't Know	1	10.0
Strongly Agree	1	10.0
Total	10	100.0

Figure 4.6 Service delivery was better and more efficient before introduction of ICT



4.3 Internal respondents

The data presented below was from the internal respondents who were the staff from the Office of the Vice President and the Ministry of Home Affairs.

4.3.1 Demographic Information

This information was classified under gender, Years of experience and the job groups.

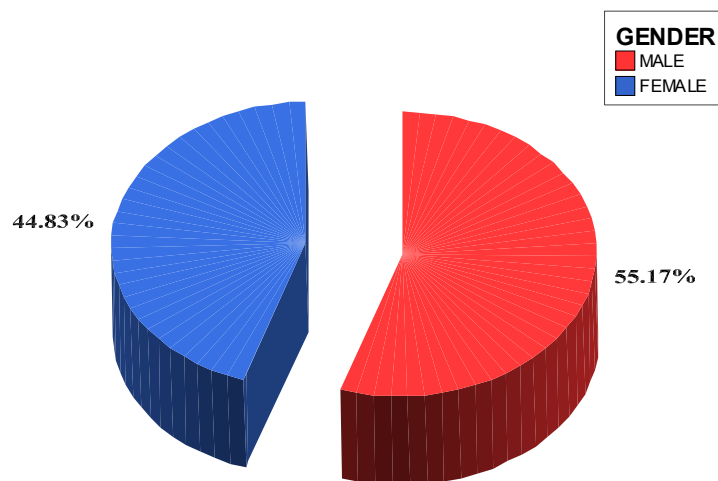
4.3.1.1. Gender

The findings indicate that a majority of the internal respondents were male, represented by 55.2 % while the female were 44.8 %. These findings have been presented in the figure below

Table 4.7 Gender

	Frequency	Percent
MALE	16	55.2
FEMALE	13	44.8
Total	29	100.0

Figure 4.7 Gender



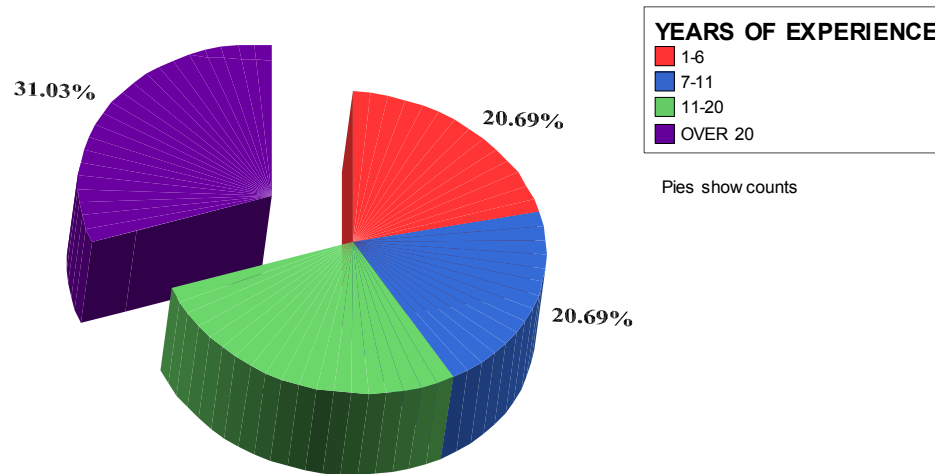
4.3.1.2 Years of experience

A majority of the internal respondents who are the staff in the ministry of Home Affairs, 31% have over 20 years of experience, 20.7% of the respondents have years of experience of between 1-6 years and 7-11 years. 27.6% of the respondents have years of experience of between 11-20 years. The results are shown in the table below:

Table 4.8 Years of experience

	Frequency	Percent
1-6	6	20.7
7-11	6	20.7
11-20	8	27.6
OVER 20	9	31.0
Total	29	100.0

Figure 4.8 Years of experience



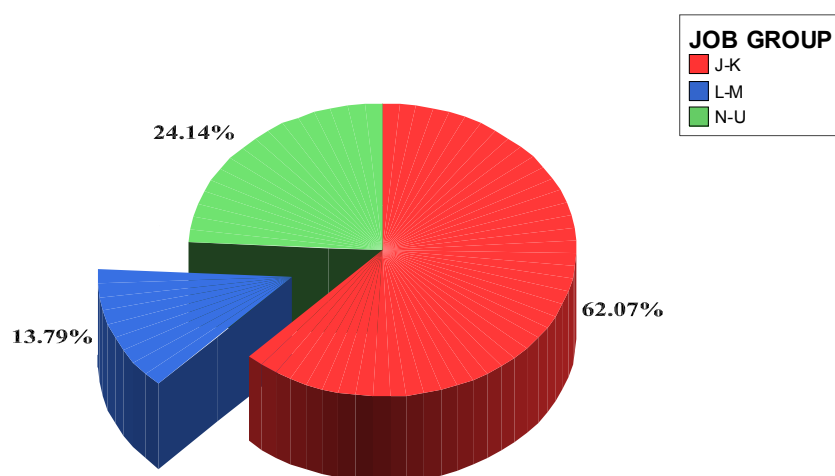
4.3.1.3 Job group

The findings indicate that 62.1% of the internal respondents are in job groups J-K, 24.1% of the respondents are in job groups N-U while a minority of the respondents are in the upper job groups N-U, 13.8%. The findings are shown in the table

Table 4.9 Job group

	Frequency	Percent
J-K	18	62.1
L-M	4	13.8
N-U	7	24.1
Total	29	100.0

Figure 4.9 Job group



4.3.2 Availability of ICT infrastructure

The respondents' opinions were sought on whether they thought that the availability of ICT infrastructure has contributed towards improved service delivery. The question is as shown below:

- (i) Availability of infrastructure and internet connection has eased communication between you and your clients

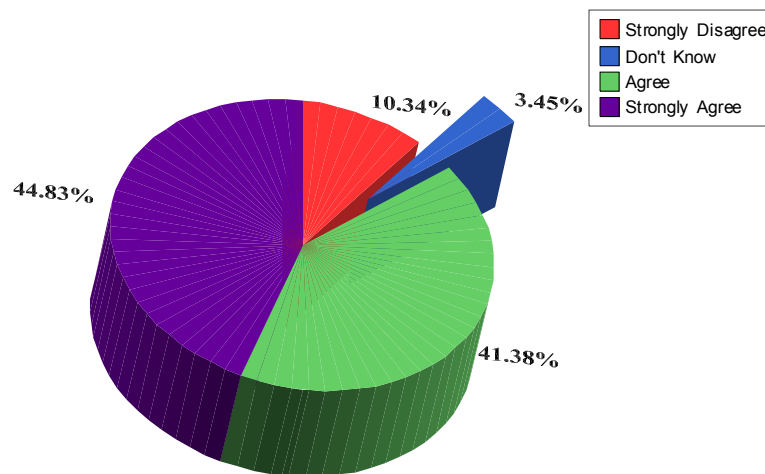
A majority of the respondents, 44.8%, strongly agree that availability of ICT infrastructure and internet connection has eased communication between them and

their clients. 10.3% of the respondents strongly disagree, 3.4% don't know and a further 41.4% agree. The results are as tabulated:

Table 4.10 Availability of infrastructure and internet has eased communication

	Frequency	Percent
Strongly Disagree	3	10.3
Don't Know	1	3.4
Agree	12	41.4
Strongly Agree	13	44.8
Total	29	100.0

Figure 4.10 Availability of infrastructure and internet has eased communication



4.3.3 Availability of websites, and applications

The respondents' opinions were sought on whether they thought that the availability of websites and applications has contributed towards improved service delivery. The question is as shown below:

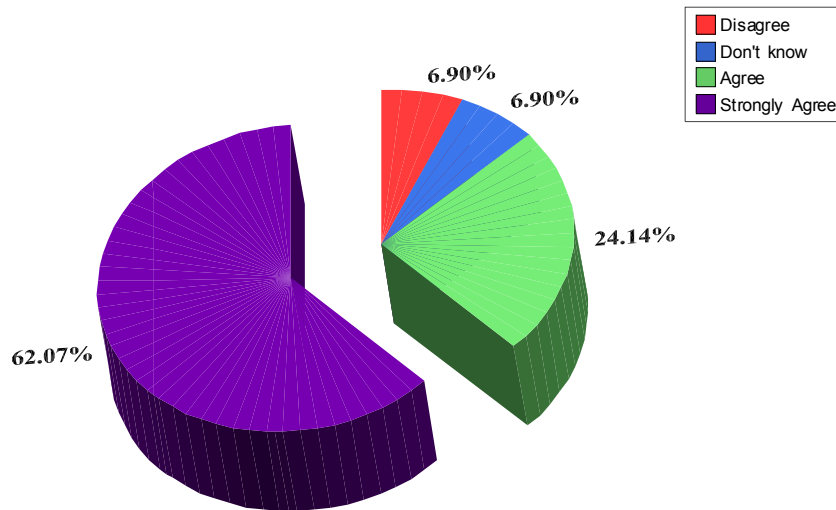
- (i) The implementation of IFMIS (financial system), IPPD (payroll system), and EFT (payment system) has improved service delivery

62.1% of the respondents strongly agree, 24.1% agree, while 6.9% of the respondents don't know and an equal percentage disagree that implementation of electronic financial, payment and payroll systems have improved service delivery. The results are as tabulated:

Table 4.11 Implementation of IFMIS, IPPD and EFT has improved service delivery

	Frequency	Percent
Disagree	2	6.9
Don't know	2	6.9
Agree	7	24.1
Strongly Agree	18	62.1
Total	29	100.0

Figure 4.11 Implementation of IFMIS, IPPD and EFT has improved service delivery



4.3.4 Training and awareness

The respondents' opinions were sought on what they thought of ICT training and its relevance on service delivery. The question is as shown below:

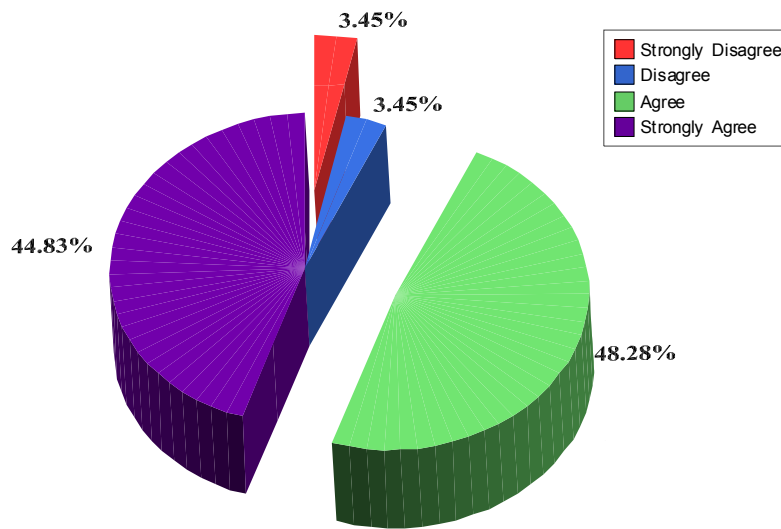
- (i) Training on ICT has enhanced service delivery

44.8% of the respondents strongly agree, 48.3 % agree, while 3.4 % of the respondents either disagree or strongly disagree that training on ICT has enhanced service delivery. The results are as tabulated

Table 4.12 Training on ICT has enhanced service delivery

	Frequency	Percent
Strongly Disagree	1	3.4
Disagree	1	3.4
Agree	14	48.3
Strongly Agree	13	44.8
Total	29	100.0

Figure 4.12 Training on ICT has enhanced service delivery



4.3.5 ICT enabled processes versus manual processes

The respondents' opinions were sought on what they thought of service delivery after the introduction of ICT in the ministry's processes and during the use of manual processes.

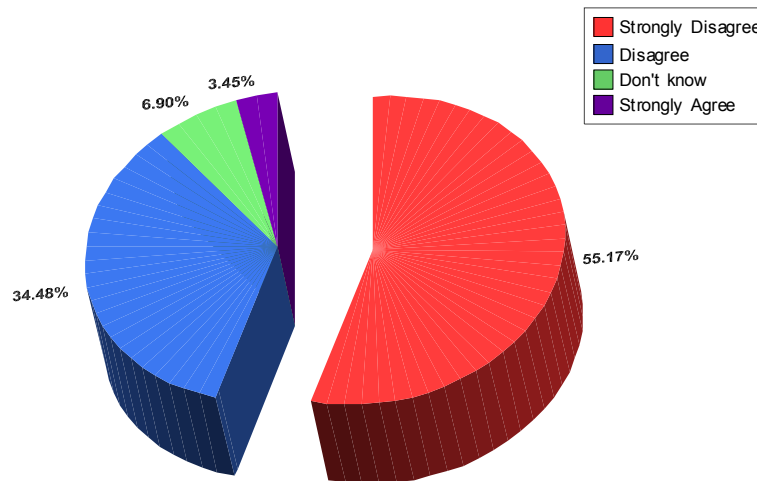
- (i) The ministry service delivery was better and more efficient before the introduction of the use of ICT in its processes.

55.2 % of the respondents strongly disagree, with a further 34.5% disagreeing. 6.9 % do not know while 3.4% of the respondents actually agree to this question. The results are as shown in the table below:

Table 4.13 Ministry’s service delivery was better and more efficient before introduction of use ICT

	Frequency	Percent
Strongly Disagree	16	55.2
Disagree	10	34.5
Don't know	2	6.9
Strongly Agree	1	3.4
Total	29	100.0

Figure 4.13 Ministry’s service delivery was better and more efficient before introduction of use ICT



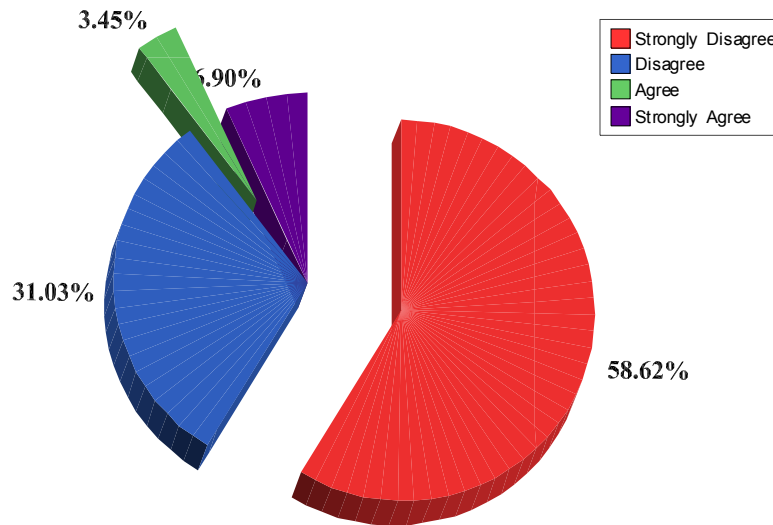
- (ii) The use of ICT and e-government has NOT improved service delivery within the ministry

58.6 % of the respondents strongly disagree, with a further 31.0 % disagreeing. 3.4 % agree while 6.9% of the respondents actually strongly agree that ICT and e-government has not improved service delivery within the ministry. The results are as shown in the table below:

Table 4.14 Use of ICT and e-government has not improved service delivery

	Frequency	Percent
Strongly Disagree	17	58.6
Disagree	9	31.0
Agree	1	3.4
Strongly Agree	2	6.9
Total	29	100.0

Figure 4.14 Use of ICT and e-government has not improved service delivery



CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings as has been documented in Chapter four, the conclusions are also presented according to the conceptual framework. The study in addition, recommends areas for additional research.

5.2 Summary of the internal respondents' findings

The internal respondents were categorized according to their job groups, years of experience and gender. Majority of the internal respondents 55.2% were male, while 44.8% were female. 20.7% of the respondents had worked in the ministry for between 1-6 years and 7-11 years, 27.6% of the respondents had worked in the ministry for between 11-20 years. A majority of the internal respondents 31% had worked in the ministry for over 20 years.

A minority of the respondents 13.8 % were between job groups L-M which are the senior level managers, while 24.8% were between the job groups N-U which are the executives. A majority of the respondents 62.1% were between the job groups J-K. Availability and usage of ICT infrastructure, availability of websites and applications and training and awareness were the parameters used to measure service delivery at Office of the Vice President and ministry of Home Affairs. On availability of ICT infrastructure, 44.8 % of respondents strongly agree that it has eased communication between them and their clients, 41.4% agree, 10.3 % of Strongly disagree that communication is easier while 3.4% of the respondents don't know.

On the availability of websites and applications, 62.1% of the respondents strongly agree that the implementation of the financial, payroll and electronic funds transfer systems have improved service delivery. 24.1% of the respondents agree while a further 6.9% of the respondents either disagree or do not know whether websites and applications have improved service delivery.

A majority of the respondents, 48.3% strongly agree that Training on ICT has contributed to enhanced service delivery. 44.8% agree with a minority of 3.4% either

strongly disagreeing or disagreeing. In general, an overwhelming 55.2% of the respondents Strongly disagree, a further 34.5% disagree that the ministry's service delivery was better and more efficient before the introduction of the use of ICT in its processes. Of the respondents, 6.9% don't know while 3.4% actually agree that ministry service delivery was better and more efficient previously. Further, 58.6% of the internal respondents Strongly disagree while 31% disagree that the use of ICT and e-government has not improved service delivery within the ministry. Only 6.4% of the respondents Strongly agree while 3.4% agree.

5.3 Summary of the external respondents' findings

The external respondents were categorized according to their gender. Majority of the external respondents were male, at 60%, while 40% were female. Availability of computer systems and websites was the parameter used to measure service delivery at Office of the Vice President and ministry of Home Affairs. On whether the use of the electronic funds transfer has enabled efficiency in the payment of suppliers, 80% of the respondents strongly agree that it has, with a further 20% agreeing on the same.

On the availability of websites, 40% of the respondents strongly agree that they are able to access the ministries/departments tender information online while 60% of the respondents agree. An overwhelming 100% of the respondents strongly disagree that the ministry should continue using manual systems as they are better and more efficient than the ICT based systems. 30% of the respondents strongly disagree, while 50% disagree that the use of ICT and e-government has not improved service delivery and efficiency. 20% of the respondents do not know. Finally 70% of the respondents strongly disagree that the ministry's service delivery was better and more efficient before the introduction of the use of ICT in its processes. 10% of the respondents disagree, 10% of the respondents don't know while a further 10% strongly agree that the ministry's service delivery was better and more efficient before the introduction of ICT in its processes.

5.4 Conclusions

From the results, it is evident that a majority of the internal respondents believe that the use of ICT has improved service delivery within the ministry and that service delivery is better now than it was during the use of manual processes. It is also

instructive to note that a large percentage of these respondents are those officers who have worked in the civil service for more than 20 years and are therefore better placed to comment on the changes that have taken place and their impact on service delivery

The external respondents are also in agreement that the use of ICT has necessitated quicker payment for their services, enabled easier and more efficient flow of information between them and the ministry and improved service delivery. ICT as a strategic orientation has therefore improved service delivery in the ministry.

5.5 Recommendations

From the conclusion drawn, it can be noted that availability of ICT infrastructure, availability of websites and applications and training and awareness have contributed to improved service delivery in the ministry. There are however some who are still not aware of the impact of ICT within the ministry or even whether there has been any change in service delivery. This could be partly attributed to inadequate awareness. The following recommendations are therefore made:

- 1) Create more awareness on the potential of ICT and encourage more people to embrace it as a modern tool of transacting business.
- 2) The ministry should train more officers on ICT awareness and its impact on service delivery.

5.6 Recommendations for future research

The study was a case of the Office of the Vice President and Ministry of Home Affairs. The study recommends a wider focus to include the whole government.

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APPENDIX

Questionnaires