EFFECT OF USER FACTORS ON E-GOVERNMENT ADOPTION IN THE PUBLIC SECTOR IN KENYA

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DECLARATION

Declaration by the Student

This Research project is my original work and has not been submitted for the award of a Degree in any other university.

Signature: …………………………………. Date: …………………………

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D61/79461/2015

Declaration by the supervisor

This research project has been submitted for examination with my approval as the University Supervisor.

Signed ……………………………………. Date …………………………….

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DEDICATION

This study is dedicated to my parents: Mr.Joel Soi and Mrs Rose Soi who have been my pillar of strength and have taught me to fight for success. They have been my emotional pillar all through and their inspirations and determined support has enabled me to achieve this dream. I dedicate this study also to my husband, Mr. Dennis Misik who has been on the forefront in helping me accomplish this task. His consistent reassurance, enthusiasm and support have been an incredible pillar to lean on. My gratitude also extends to my son Jay Kiprono for his patience and love during the whole process. I also appreciate my sister Dorothy Chepkirui for the unswerving assistance and prayers.

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ABBREVIATIONS AND ACRONYMS

ASEAN   Southeast Asian Nations

ASPA   American Society for Public Administration

CIS   Community Information System

EMIS   Education Management Information System Education Management

Information System

ERPS   Enterprise   Resource Planning Software

G2C   Government to consumer

HIS   Health Information System

ICT   Information communication and technology

IFMIS   Integrated Financial Management Information System

IPPS   Integrated Personnel and Payroll System

LIS   Land Information Analysis

TTF   Task Technology Fit Theory

TAM   Technology Acceptance Model

OECD   Organization for Economic Co-operation and Development

US GAO   United States Government of Accountability

ABSTRACT

Nations all over the world have tried to implement the adoption of electronic government; however, users have not given full support to the automation of government services through the electronic government platform. The objectives of the study were to determine the effect of privacy on the adoption of e-government and also investigate how ICT infrastructure has an impact on electronic government adoption. The study also aimed at finding out how usability factors as well as the literacy level have an influence on electronic government adoption. The study explored various variables on e-government adoption which includes; privacy, usability factors, cost of ICT infrastructure and literacy level. Each variable was studied and data analyzed. The research design that was used in the study was a survey. Questionnaires that contained a series of pre-set questions of both open ended and closed ended questions were given to the respondents. The population of study was Huduma center in Mombasa. Out of the 61 respondents that were of target, only 41 questionnaires were filled and returned. Cleaning and analyzation of data was done using the Statistical package for social sciences. The study findings of the study denoted that the level of privacy that the users get while accessing e-government is neutral. It was found out that measures need to be put in place so as to protect the users 'information. Usability factors from the findings showed need for improvement which could be done through increase in users' awareness about e-government. Cost of ICT infrastructure as deduced from the findings proved to be a hindrance to e-government adoption, which created a need for availing the necessary resources. Level of education from the findings stipulated a need for training facilities to the users. It can be concluded that lack of trust in using electronic government, lack of training, inefficiency of necessary resources and need to increase awareness is required for quick adoption of electronic government. This study recommends increasing awareness, training forums and sensitization of users on how to protect their information when dealing with online systems.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

User factor is how well information systems user is satisfied when using an online system (Nielsen, 2012). It entails all the aspects of human computer interaction, people's perception of all aspects such as utility, how easy a system is usable by the users and how efficient and effective the system is to the user. E-government referred to as electronic government denotes the automation of government services. Users are able to easily retrieve government services at the comfort of the homes as long as they have internet connection using laptops, smartphones and computers (Kumar, 2007.Electronic government has been established to be economical| and useful approach for governments to interact with the users (Zhao, 2014). In both high- and middle-income countries e-government's aim is to produce services to users on-line, government procedures is predicted to boost and additionally give improved services for voters. Services that electronic users are able to get from adoption of electronic government include; provision and/or submission of certificates, applications, and tax payment. Another necessary category of electronic government application involves the electronic categorization and storage, as well, because the on-line publication of public data resources. As a consequence of adopting electronic government, government resources are thus guaranteed to categorize in digital collections (Tambouris, 2005).

The theories that anchor this study include; Task technology fit (TTF) that measures performance once it's enforced. It measures the convenience of use, compatibility, reliability, production timeliness, system's ability and relationship with users employing a seven-point scale. Technology acceptance model (TAM) indicates how simply accept the employment of technology once introduced. Acceptance relies on the convenience of use and additionally the perceived utility that is caused by technology. Another theory which was be used within the study is socio-technology theory. This theory states how well users and the| system interact and also take a look at the performance of users supported the technology that has been enforced in place.

The government in its delivery of government services to electronic users whether or not local or national level uses a platform referred to as e-government. The services are rendered electronically ought to be without delay offered and accessible comfortable. Electronic government is more than just the automation, it could be a radical transformation

of electronic services, technology, and body procedures that have the ability to change the manner that services and information are given to citizens (Information Society Commission, 2003). Boosting public participation and delivering broad-minded and reformist tactics to bureaucracies is part of the vision of electronic (Cumbie & Kar, 2014). The Kenyan Constitution, passed in 2010, saw the devolution of a centralized system into a national government and forty-seven county governments with the aim of transferring powers, functions and responsibilities into the counties, thus making it easier for voters to access governmental services.

1.1.1 User Factors

Electronic government is advantageous however there are some challenges that are being faced while implementing it. Firstly, it requires a lot of finances for all the projects to be successful. Employees of the government play a part in a successful implementation whereby they are needed to take part in the adoption. Administrative issues, technological challenges employees' lack of infrastructure and lack of trust on computer applications are issues that faced by employees and need to be addressed (Sarkar, 2008).

The willingness of employees to implement the vision of information systems and integrating the governmental services is greatly relied upon by electronic government. Employees have a great influence on the citizens since they are able to convince them on the utilities and benefits that come along with the implementation of electronic government. Adoption of electronic government may fail, to avoid its failure government employees are encouraged to appreciate and adopt electronic-government. It is a requirement therefore for government employees to possess the necessary skills and knowledge about information communication and technology and are therefore required to know it is a necessity for successful adoption (Alshibly & Chiong, 2015).

Improvement on the design of the websites that host the electronic government is needed due to low grade in the usability and also support for mental model. Inefficient information analysis and lack of necessary skills to appreciate user insight toward operating this system (Sidek & Teo, 2013). Electronic government users have not accepted the electronic service since they lack awareness on the benefits that come along with having to adopt the electronic government. Users need to be trained on the challenges that may come along with the adoption of electronic government as well as the measures to take in case of a threat posed by exposure to the internet. The quality of information yielded by electronic

system brings about the satisfaction to the user and this means easier adoption criteria (Norshita, 2010). This study will look into factors such as trust, user interface design, and training, level of education, internet speed, age and ease of use.

1.1.2 E-Government Adoption

Electronic government adoption refers to users' decision on whether to use or not use an online system (Kumar, 2007). A successful implementation therefore entails operating conjointly between the service suppliers of the government and conjointly the users (Dwivedi, 2011). Over the recent past African countries have been putting efforts on ways to make services accessible by the users over the internet. Efforts made have a enormous influence on how fully the targeted consumers i.e. the citizens normally utilize the services and knowledge. In 2008 there was a survey conducted by United Nations electronic government. The results showed that African countries are ranked with low on national use of Electronic Government with associate index of 0.04 ranking position 146 out of the 189 countries surveyed globally. This analysis can be used to realize a way of increasing public participation of e-government services in African country. Towards achieving this goal, the analysis set to research the factors that hinder adoption of electronic government and to explore on what must be done to enhance adoption. Electronic government needs rather more than technical creativity for developing and in operation successful online services. Electronic Government merges the ruling class and also the citizens. This has greatly improved the service delivery and external interactions have been built. Great relationship is built and the governmental work of service delivery to its users is made easier (Alshehri & Drew, 2010).

Need to reinvent the government was conducted in the late 80s which was more concerned about government services to the citizens. Two approaches were proposed, one being starting with the citizens needs and the other being starting from public service to the citizens (Tat-Kei, 2002). Approach from the users to get government services should be put in place as part of the strategies. To adequately satisfy their users it is imperative for governments and public agencies to be constantly checking on the needs, perceptions and experiences of their users when dealing with e-services.

1.1.3 User Factors and E-government Adoption

Africa has experienced slow adoption due to poor management and lack of appropriate service integration in the departments. African countries such as Nigeria, Malawi and

Uganda have not taken advantage of the adoption of technology. Information technology is used in delivery of services so as to improve its efficiency, effectiveness and to make government information easily accessible by citizens and users (Potnis, 2010).

Adoption of electronic government in Kenya has faced a lot of rejection from the socio-economic area. Cultural values in some users prohibit them from accepting the adoption of electronic government. Strategy formulation in 2004 created a need for order and harmony in government information systems initiatives which was experiencing disharmony and no coordination in the various departments involved. Roll out of electronic government via the business level fused applications such as the Oracle based Enterprise Resource Planning Software, the Integrated Financial Management Information System, Integrated Personnel and Land Information Analysis, Payroll System e-tax, Health Information System, Education Management Information System and Community Information System. It is necessary to ensure that all citizens benefits from the potentials of e-government by securing universal accessibility. Equality in public service delivery and access should therefore be guaranteed by e-government websites (Jaeger, 2008).

1.1.4 The public Sector in Kenya

Adoption of electronic government in Kenya has faced lots of rejection from the socio-economic area. Some users are against it since they believe it erode their cultural ways. The first electronic government strategy adopted in Kenya was developed in 2004 and got its approval in December, 2004. The overall aim was to harness and harmony in Government ICT initiatives that were invariably characterized by inharmoniousness and no coordination within the departments following their own ICT agenda that resulted to wastage through duplication of resources. Electronic government has brought about increase in service provision through commerce level combined applications. Examples are the Oracle primarily based Enterprise Resource designing computer code, as an example, the integrated financial Management information system and also the Land information Analysis, Integrated Personnel and Payroll System, electronic tax, Health information system, Education Management information system, and Community system. To make sure that every citizen enjoys the potentials of electronic government, universal accessibility must be secured.

1.2 Research Problem

Since the inception of electronic government, different public sectors, parastatals and private sectors, have adopted e-government. They are however faced with challenges in the process of adoption of technology which hinders the overall performance. Previous studies have shown that major challenges that are being experienced in electronic government adoption include; inefficient computer resources, lack of required skills by the personnel operating on the electronic government platform and lack of awareness by many users on the e-government functionality and benefits to be enjoyed while using electronic government. In Cambodia a study was conducted on what causes slow adoption of electronic government of the Association of Southeast Asian Nations member states. The results showed that lack frequency in using e-government in Cambodia is due to lack of knowledge of the possible factors that assist citizens to adopt and use electronic government services and the capacity of the government to execute (Gant, 2008). African governments lack integration among various departments that take part in service delivery and this has led to poor public service delivery (Adeyemo, 2011). The success of various electronic government initiatives is brought about by service provider's coordination with the end-users. Citizen should also be willing to accept and adopt government services for implementation to be successful.

E-government adoption has brought about great benefits to user. The benefits include readily accessible information whereby users are able to get services at the comfort of their homes or work places as long as they have internet connection. This has saved on time wasted in queues in public organizations waiting to be served. Huduma Centre is one of the platforms that electronic government uses to channel its services to the public. Services rendered at Huduma Centre include; Online registration of companies, renewal of identification cards, Filling returns, renewal of driving licenses, application of provisional driving license and Clearance from HELB among others. Studies have been done on adoption of electronic government by users but still there are factors that have not been fully expounded. This study seeks to determine how user factors have an influence in the public sector in Kenya. Measures to put in place to increase adoption of electronic government will also be explored.

The study will also determine the effect of electronic government on performance. It will also determine factors that cause slow adoption of electronic government. This concept is

very important as it outlines the factors that have been identified to lead to slow reception and use of electronic-government services.

1.3 Research Objectives

The objectives of this study were:

  i.   To investigate the effect of ICT infrastructure on electronic government adoption in the public sector in Kenya.

 ii.   To examine the influence of literacy level on electronic government adoption in the public sector in Kenya

iii.   To evaluate the effect of usability factors on electronic government services in the public sector in Kenya.

 iv.   To determine the effect of security and privacy on electronic government adoption in the public sector in Kenya

  v.   To explore the effect of demographic factors on electronic government adoption in the public sector in Kenya

1.4 Value of the Study

Information that will be provided to management across the entire spectrum of the organizations on factors that can lead to acceptance or cause hindrance to cloud computing paradigm in Government's ICT. It will assist in maximizing the effectiveness and efficiency of the government websites and consequently increasing their cost-effectiveness in e-government service. It will add value to the ever-increasing literature on electronic government adoption and factors. It will also contribute to reduction user frustrations and improve user satisfaction.

Scholars and academia will gain insight into understanding issues that may hinder acceptance of electronic government in other governments. Findings will also help in tackling the digital divide in Kenya. It will also help scholars in carrying out research on problems that may arise on electronic government adoption hence promoting transparency, openness, effective governance and accountability in adoption ICT technologies.

Practitioners in technology adoption management will benefit from the study by having an important reference to a practical case on technology acceptance that highlights important aspects of accepting new technologies and perceived risks that may hinder acceptance

which can help them borrow those practices that will guarantee success and avoid those that can be obstacles to realization of the deployment of new technology.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

It entails background search of problem and indicates the gap that the study was to be bridged, reasons behind the study and its significance. It also presents the various theories that have been used on user factors affecting adoption of electronic government. Relevant studies on the study have been explored as well as a brief of the literature review.

2.2 Theoretical Review

Four frameworks are used to elaborate the theoretical background. The frameworks basically deal with how centralized and decentralized information technology is in the electronic government adoption. It also looks at the limitations that hinders. The interaction in organizational environment is an important factor that also builds the four frameworks (Garson, 1999).

2.2.1 Task Technology Fit (TTF) Theory

Task-technology fit focuses on the effect of technology on individual overall performance. Organizations use a lot of money on information systems to enhance organizational or person performance (Goodhue, 1995). In the context of records structures studies, generation signifies to computer systems (such as hardware, software program, and information) and person care services (including education and help links). Technology is viewed as equipment utilized by individuals in carrying out their responsibilities. Impact on performance while using technology will be felt if there is a good fit with the obligations that that the technology helps (Goodhue & Thompson, 1995).

2.2.3 Technology Acceptance Model (TAM)

This model explains the ability to understand utility and perceive easy use. It has been tested on totally different geographical settings (Hung, 2013). The strong predictors of electronic government adoption are thus perceived easy use, perceived utility and self-efficacy (Hung et al., 2013). It focuses on the shift from the government to the users' aspect. Justification of electronic government use by characteristic citizens' adoption behavior as a result of on-line nationality in an information group may be the innermost focus in e-government development (Sang& Lee, 2009).

2.2.4 Socio-Technical Theory

Socio-technical structures pertain to concept regarding the social components of humans and society and technical factors of organizational shape and tactics. This theory has at its middle the concept that the designed performance of any organizational device can best be understood and advanced if each and 'technical' elements are added together and treated as interdependent parts of a complicated machine. It's far all about designing social structures and technical structures so that they work smoothly.

The technical subsystem incorporates the devices, instruments and strategies required to transform data into a manner which complements the economic general execution of the organization. It additionally contains of the employee's skills and the know-how, capabilities, attitudes, values and desires they convey to the paintings surroundings as well as the structures that exist inside the organization.
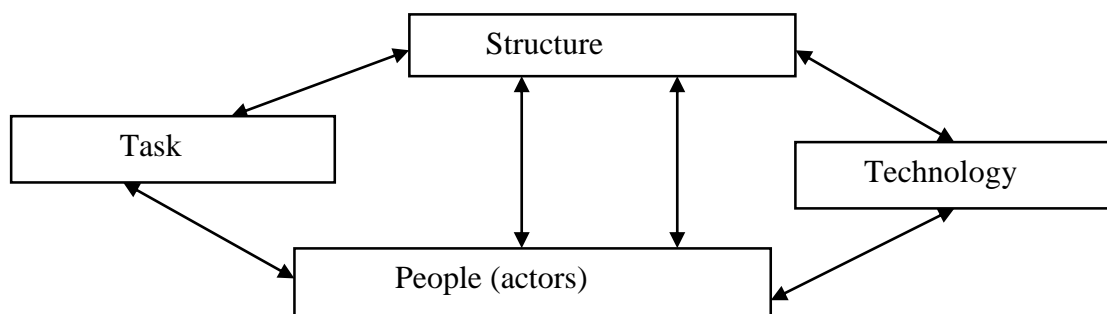
Figure 2. 1 Socio-Technical Theory

2.3 Determinants of E-Government Adoption

Government of Kenya has subsequently dedicated itself to realizing a functioning and operative e-government to proficiently delivery information to the citizens, inspire contribution of citizens in government and enable all Kenyans. E-government adoption poses a great challenge to many countries hence slow adoption (Sharma &Gupta, 2003).

2.3.1 Privacy and Access

Electronic users of government services have proven to possess no trust on the platform during which the government services are provided. They expect the data to be protected against fraudsters which is not the case most of the days. When accessing electronic

services customers browse on e-governmental portals users count on the records at the web website to be accurate, dependable, and timely (Be´langer, 2005). Transactions done over the web involve several uncertainties and customers are uncovered to risks (Be´langer, 2008). Each users' data must be protected against unauthorized access since users are afraid that e-offerings internet sites don't seem to be adequate enough to shield their personal data from being ill-used or distorted.

New users and repeated users of electronic government are attracted by quality of service they get (US-GAO document, 2002). Safety is an element crucial in e- government on account that having access to the e-government services includes supplying personal data that can be manipulated by using fraudsters. Confidentiality inside the software system is used to get admission to e-government service and additionally the infrastructure consisting of laptop systems, community, person guide, has an amazing influence on the employee acceptance of e-authorities (Sang, 2009). Since information in electronic government is crucial trust on online system and getting right of entry affects the e-government adoption the personnel (Barua, 2012).

2.3.2 Usability and Access

E-government users take into consideration the reliability of the system since the performance they get from accessing e-services depends on the service quality (Palmer et al., 2000). A high degree of responsiveness consists of developing a mechanism that will enable the electronic users to recover their data in case of failure by the electronic system. The government needs to continue to preserve its overall performance and improvements as well as the reputation depending on responsiveness.

Capability of making use of computers and internet has proven to be a vital success cause in electronic government execution and the deficiency of such expertise might result to socio exclusion or marginalization(UNPA&ASPA,2001).Education is a procedure of acquiring knowledge for useful application while knowledge refers actualities attained from consultations ,peers, extensive reading and good education(Kumar 2009).A lot of citizens have difficulty in understanding e-government services as a consequence of deficient technological literacy, in internet and computer access(Belecheva, 2003).Low literacy rate hinders the accessibility of G2C(Government to consumer) services and has become an obstacle in the execution of –government in Kenya .To completely have smooth

running of e-government services e-users/e-citizens need to have knowledge on writing and read skills as well as basic ICT skills.

2.3.3 Literacy Level and Access

Functionality to create internet usage and computer systems ends up in vital fulfillment in electronic government execution and therefore the deficiency of such information would possibly result to socio exclusion or social process (UNPA&ASPA;, 2001). Education involves getting data for useful utility while understanding refers actualities attained from consultations, peers, massive reading and excellent training (Kumar 2009). Most of the e-citizens/e-users have difficulty in accessing e-government services as a consequence of poor technological acquisition (Belecheva, 2003). Low acquisition rate hinders the accessibility of G2C (government to client) services and has become an obstacle among the execution of e-government in African nation .To fully have smooth running of e-government services e-users have to understand how to examine, write and own primary ICT skills.

Capability to make use of the internet and computers has been vital cause of success in electronic government execution and the deficiency of such expertise might result to socio exclusion or marginalization(UNPA&ASPA, 2001).Education is a procedure of acquiring knowledge for useful application while knowledge refers actualities attained from consultations ,peers, extensive reading and good education(Kumar 2009).A lot of citizens have difficulty in understanding e-government services as a consequence of deficient technological literacy, in internet and computer access (Belecheva, 2003).Low literacy rate hinders the accessibility of G2C(Government to consumer) services and has become an obstacle in the execution of government in Kenya .

2.3.4 Cost of ICT and Access

Electronic government services must be put in place required infrastructure like computer software and hardware and dependable telecommunication amenities for connectivity. Availability of the right infrastructure for e- government should be accompanied by expertise that has the skills to operate on the e-government platform. This will guarantee e-users easy access to e-services. A Successful e-government platform needs to support the ways which users look for information and interact with the system (Hourican, 2002). The cost of adopting ICT is becoming an obstacle in the adoption of electronic government. Firstly, the computers that are used are expensive to purchase and maintain. There's is need

for trained staff that will help e-users access the e-service. For every user to access e-service at the comfort of their homes, they need to have smart phones which also require bundles to enable them to access the e-service. Technology keeps on changing and so computers get obsolete over time and need replacement with new ones. Internet providers are charging a higher fee depending on the internet speed. Slow internet speed restricts fast access to e-service and consumes a lot of time.

2.3.5 Demographic Factors and Accessibility

The young generation is frequent users of e-government since they prefer to be at per with technology. Elderly users feel strenuous and find it tough to use electronic government platform. Consistent with Davis' the most dimensions of technology acceptance are perceived utility and perceived simple use (Davis &Warshaw, 1989). The largest influence on the usage is due to perceived ease of use whereas actual usage is on the perceive simple usage. Older people are lacking the awareness of benefits associated with ICT usage as a result of they are simply happy with their current potentialities and cannot imagine however ICT might improve their lives (Morris & Venkatesh, 2000). They need an essential attitude towards the usage of latest technologies as a result of they did not get used to them throughout their operating lives

The Organization for Economic Co-operation and Development report information of 2012 layouts that there is a little rate representation of women in ICT-related field and are underrepresented in administrative, logical, and proficient positions and overrepresented in office and secretarial occupations. Strasbourg, (May 1998) observes that there is a gap in the field of ICT as far as gender relations is concerned. Strasbourg mentions that females are disadvantaged owing to historically determined inequalities. They generally do not enjoy the equal access to ICTs like the male counterparts and feel constrained from entering the global ICT knowledge economy. The situation is worse for women in Africa's rural sector, where ICT illiteracy and poverty are more acute and traditional practices and beliefs which oppress women more deeply entrenched, is even more precarious.

Educational qualifications by people allows them to adopt new innovations easily (Dwivedi and Lal, 2007). In keeping with Venkatesh education and technology are related in terms of usage. Scholars (Choudrie, 2006) have stated that education is amongst the foremost necessary drivers. Furthermore, Dwivedi (2007) claim that education can be thought of as

associate degree experimental variable to clarify the variations between those who implement e-government and others who do not.

2.4 Empirical Literature Review

In line with Shareef (2011) the determined attempt by a country, particularly underdeveloped countries, still have inefficient resources and infrastructure, lack of recognition, human resource ability, technical competencies, cheap generation, government regulation that is effective. Basamh, & Suhaimi (2011) did a research on the implementation of electronic government in Saudi Arabia. Infrastructure costs, privacy problems, accessibility, portable computer acquirement and availability are the key problems that limit the adoption of electronic government in Saudi Arabia. He found that these factors negatively have an effect on the readiness of government authorities for electronic government adoption. The challenges touching on electronic government is not perpetually solely associated with the assorted government agencies could also be because of low temperament level of acceptance by users

Sang, Lee & Lee (2009) have studied factors and demanding situations to the process of electronic government delivery Cambodia. Lack of support among the top leaders and low prioritization of information technology is posing a great challenge in the implementation. Information communication and technology infrastructure should also be improved for a successful delivery of electronic services by the government. Bwalya (2009) tested issues affecting adoption of electronic government in Zambia. He found out that there are no infrastructures that support the implementation of electronic government. Language barrier pose a challenge also since most of the users do not understand materials presented to them written in English. Measures need be put in place in the right trade management techniques, and non-contextualization of e-government practices so as to improve of electronic government adoption in Zambia.

A study carried out by Bertot, Jaeger, & Grimes (2010) on how to deploy ICT in order to foster a culture of transparency only outlines the potential impacts of a success adoption of Electronic government; those encompass trade in attitudes in the direction of transparency, citizen's confidence with government amongst many. Bertot et al. (2010) claim that E-government adoption in developed nations is faster and easier than in growing countries due to lifestyles of greater financial, technical/personnel capacities and sound legal frameworks which can be vital drivers in e-government adoption. The study found out that

issues such as social elements among ICT users have a great impact on electronic government adoption. Apathy and unwillingness to embrace ICT's with the aid of each users and citizens hinders it's brief and successful implementation. Instances have occurred whereby electronic government users prefer one on one with the government officials instead of getting the same service online.

An observation by Kaaya (2006) on electronic government adoption in East Africa focused precisely on e-government websites in East Africa concentrated only on the issues of government websites, contents and their management and their importance in electronic government adoption. In South Africa, Maumbe, Owei & Alexander (2008) looked into electronic development in Africa. The study was centered on a case called Cape Gateway in South Africa that's a main task inside the African continent. It was found out that many African nations have adopted e-government initiatives and focused on the benefits while ignoring risks and challenges faced inside the implementation method. It was also found out that applications that are effective in developed countries do not inevitably function well in developing countries due to a myriad of challenges. Demanding situations in developing countries such as socio-economic aspects like Infrastructural limitations, lack of regulatory frameworks, citizens' attitudes due to their diverse cultures, lack of skills and competencies required and also inadequate budgetary allocation pose a need for risk assessment in the initial stages which would enable implementers to inquire on the pace and pathways for electronic government programs and that would assist much in curbing some of these challenges.

2.5 Summary of Literature Review

This layout was directed by the research objectives as well as the dependent variable. In this chapter the study sort to evaluate research involving electronic services, the evolution of electronic government programme and how ICT infrastructure, level of education, demographic factors, security and privacy affected access to electronic government services through electronic government programme. The chapter also covers the thoughts of several authors regarding e-governance, emergence of electronic governance in East Africa, ICT infrastructure and e-governance in Kenya.

User Factors

Privacy

Usability factors

ICT costs

E-government Adoption

Demographic factors

Literacy level
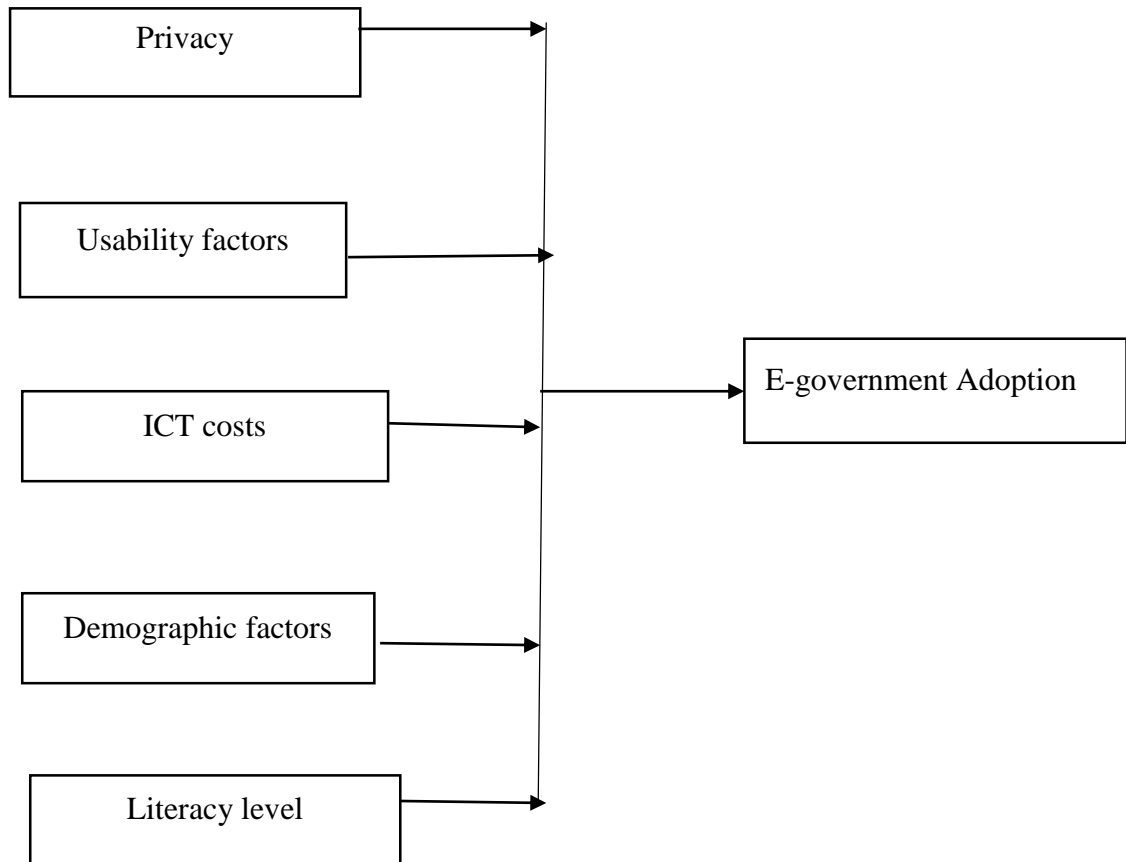
Independent Variables   **Dependent variable**

Figure 2. 2 Conceptual Framework

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

Summary on ways in which data was collected is given in the chapter. It comprises of research design used, the population being targeted, instrument used in research, how data was collected, data analysis and presentation and validity and reliability.

3.2 Research Design

Survey method was used in the research design.It is a technique used to produce solutions to research problems (Orodho, 2003).In this study survey design will be used and a questionnaire for data collection. The questions will be delivered either one on one, written, by phone or online. A cross-sectional survey was conducted within a given period of time to make conclusions about a population of interest (universe). It can be used to collect descriptive characteristics of a large population and give it high power for inference. In a survey research, reliability can be easily achieved by standardization of the questions.

A survey across all sections was relevant since we seek to collect descriptive information about a large population that is the electronic government users. A survey design was also essential in collecting data on opinions and perspectives of e- government users in Mombasa County. In this study, questionnaire technique was also used.

3.3 Target Population

The population targeted users of electronic platform at Huduma centre in the county of Mombasa. The population, to which a finding was generalized to, can be referred to as the target population. Group of individuals, objects or events possessing common characteristics is a target population (Mugenda & Mugenda, 1999). This study is targeted residents Mombasa County. Respondents of both genders who are above 18 years of age irrespective of their ethnicity and should have Kenyan identification cards. The study focused on public institutions such as Huduma Kenya center, NSSF (Nation security social Fund) and Kenya Maritime Authority (KMA) since these institutions offer e-government services. According to Mombasa county Adolescents and Youth Survey (NAYS , 2015) the proportion of the county's population in working ages (15 to 64 years) was 65.3% in 2009. This study was targeted to this population since they are the probable users of the electronic government platform.

3.4 Sample Size and Sampling Technique

Nassiuma (2000), an appropriate sample can be given by the formula below:

$$n = \frac{NC^2}{C^2 + (N-1)\,e^2}$$

Where;

n, is the sample size being determined;

N, is the total population.

C, is the coefficient of variation, 30% is usually acceptable (Nassiuma, 2000);

e, is the relative standard error, 5% is acceptable

3.5 Data Collection

Collection of data was administered using questionnaires. It contains a series of pre-set questions for the respondent to give responses, using a set of questions to be investigated; a detailed questionnaire can be developed for a survey (Rowley, 2014). A self-administered questionnaire is also easy to use if the questions have proper clarity and brevity. The technique for administration of the questionnaire was through an online google form which was locked only to be accessed by Mombasa county residents only. The questionnaire contained structured questions with opinions rated on a Likert's scale (Likert, R, 1932).

3.6 Validity and Reliability

Validity is the extent to which the score from a measure represent the variable they are intended to (Cacioppo & Petty, 1982). Reliability refers to the consistency of measure in the variables of study (Mugenda & Mugenda, 1999). The data collection instrument will be subjected to peer review to examine if it measures what is meant to measure for validity. Validity of the tools was also confirmed by conducting a pilot test and changes were made. Reliability was achieved by ensuring that the research design is transparent so that the same method can reproduce consistent results.

Measurement is said to be reliable if repeated for a second time gives same results as the initial. If the results differ then it is unreliable (Mugenda &Mugenda, 2003). To measure the reliability Cronbach's alpha was applied. It gave a simple way to measure reliability where value between 0 to 1 is considered to be good.

3.7 Data Analysis

It is a Process of rearranging information collected to produce good structure and meaning to the data analysis (Mugenda & Mugenda 2003). The data was edited, cleaned in preparation to come up with clear and error free data for analysis. To get the analysis of the data statistical package for social sciences (SPSS) was used. For primary data to be processed, descriptive statistics was applied in establishing frequencies, means and percentages. A regression analysis was used to determine correlations between the variables (Wu, 2014). Univariate regression analysis was conducted for each of the variables; the multi variate analysis was conducted with an assumption that data would follow a normal distribution.

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta 3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

Y = Government adoption (Dependent variable).

a = Constant

β_1 = Coefficient of privacy and access

β_2 = Coefficient of cost of ICT

β_3 = Coefficient of Usability factors

β_4 = Coefficient Literacy level

X_1 = Privacy

X_2 = Cost of ICT

X_3 = Usability

X_4 = Literacy Level

ε = Error term

The multiple regression correlation coefficient (R) was used to test the strength of association between the dependent and independent variable. The coefficient of determination R^2 was used to determine the proportion of the variance in operational performance that is explained by the linear model.

3.8 Operationalization of Variables

Operationalization refers to the consequence of the procedure being used in operationalization and is used to explain variables in relation to the process or a set of validation tests required to regulate its actuality, period and magnitude. The necessity for operational definitions is important when gathering all types of data that is not distinct which usually give an inaccurate result and be unreliable.

Table3.1 Operationalization of variables

Objectives	Variable(independent)	Indicators	Measurement of Scale	Tools of Analysis
Infrastructure influence on access to government services through e-government.	Cost of ICT	Cost of purchasing computers and laptops, smartphones. Internet access	The number of people having the ability to access e-government	Frequencies percentages
Literacy level influence on access to government services through e-government	Level of education	Highest level of education Perceived ease of use	Training profession	Frequencies percentage
Usability factors influence on access to government services through e-government.	Usability factor	Ease of use Perceived Usefulness User satisfaction	usability	frequencies percentage
Demographic factors influence on access to government services	Demographic factors	Ease of use Accessibility	Number of people accessing e-government between the	Frequencies percentage

through e-government			ages of 18-60 years.	
Privacy influence on access to government services through e-government.	Privacy and security	Safety of information	Number of people willing to use e-government	Percentage frequencies
	Variables (Dependent)	Indicators	Measures	
	Access to government services through e-government	Frequency of accessing Mode of accessing	Growth rate of internet use	Tools of Analysis

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

4.1 Introduction

Examination of data, interpretation and presentation based on the findings of the study in Mombasa was done in this chapter. Findings from questionnaires were systematically examined and outlined.

4.2 Response Rate

This study targeted 60 respondents out of which 41 filled the questionnaires creating a response rate of 68.3%. According to Mugenda & Mugenda (1999) response rate of 50o% is adequate for analysis. Information collected from the sector was sorted and finally analyzed using applied mathematics package for social sciences (SPSS) computer code. Aim being to demonstrate the connection among the assorted variables, the information is conferred within the variety of tables, frequencies and percentages wherever applicable. They are additionally conferred consecutive in step with the analysis queries of the study. Mean average scores and standard deviations analysis and multivariate analysis was accustomed to analyze the information collected. The data was coded, evaluated and tabulated to depict clearly the results on factors that have an effect on adoption of electronic government in public sector.

Table4.1 Response Rate

Population location	Sample size	Response Rate	Percentage
Huduma Centre Mombasa	61	41	68.3

4.3 Demographic Information

Demographic information was used to ascertain data on respondents based on the level of education, frequency of internet usage, experience on internet usage, internet and government information and electronic government system usage.

4.3.1 Educational Background

Based on the literacy level, each respondent was requested to state their level of education and from the data collected respondents with secondary education or less constitute 48.8%. Other respondents with bachelor's education level comprised of 36.6%. In addition, respondents with higher education or post graduate studies had 14.6%.

Table 4. 2 Education Background

	Frequency	Percent	Valid Percent	Cumulative Percent
Secondary Education or Less	20	48.8	48.8	48.8
Bachelors	15	36.6	36.6	85.4
Higher Education (Postgraduate)	6	14.6	14.6	100.0
Total	41	100.0	100.0	

4.3.2 Experience on Internet Usage

From the data collected from the respondent majority with a 31.7% stated that they have been using internet for a span of 1-3 months. Respondents who constitute 24.4% said that they have been using the internet for more than four years and also between 7-11 months. The remaining percentage (19.5%) responded by indicating their internet usage to be between 3-4 years.

Table 4.3 Years of Internet Usage

	Frequency	Percent	Valid Percent	Cumulative Percent
1-6 Months	13	31.7	31.7	31.7
7-11 Months	10	24.4	24.4	56.1
3-4 Years	8	19.5	19.5	75.6
More than 4 Years	10	24.4	24.4	100.0
Total	41	100.0	100.0	

4.3.3 Frequency of Internet Usage

From the data collected from the respondents it can be deduced that 70.7% of the respondents use internet on a daily basis. Other respondents who use internet once a week comprised of 22%. Respondents who use internet once a year comprised of 4.9% while the remaining 2.4% said they use internet once a month.

Table 4.4 How often do you use the Internet

	Frequency	Percent	Valid Percent	Cumulative Percent
Everyday	29	70.7	70.7	70.7
once a week	9	22.0	22.0	92.7
once a month	1	2.4	2.4	95.1
Once a year	2	4.9	4.9	100.0
Total	41	100.0	100.0	

4.3.4 Internet and Government information

Findings from the respondents showed that39% of the respondents use internet to gather information once a year. Respondents who use internet once in a week had a percentage of 26.8. Others users who indicated their usage of the internet to be once in a month had 19.5% while those that use internet to gather information everyday were 14.6%.

Table 4.5 Internet and Government information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Everyday	6	14.6	14.6	14.6
	Once a week	11	26.8	26.8	41.5
	Once a month	9	22.0	22.0	63.4
	Once a year	15	36.6	36.6	100.0
	Total	41	100.0	100.0	

4.3.5 E-Government System Usage

Different respondents gave responses on usage of internet and it can be seen that 80.5% of the respondents have used e-government while 19.5% have never used e-government.

Table 4.5 E-government system Usage

	Frequency	Percent	Valid Percent	Cumulative Percent
No	8	19.5	19.5	19.5
Yes	33	80.5	80.5	100.0
Total	41	100.0	100.0	

4.4 Diagnostic Tests.

These involves test that are used to measure normality, reliability and validity as well as multicollinearity.

4.4.1 Normality Test

The study sought to determine how the study variables were distributed. The findings are as shown below;

Table 4.6 Descriptive statistics

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Usability	41	.334	.369	-.582	.724
ICT Infrastructure	41	-.336	.369	-.183	.724
Literacy level	41	.202	.369	-.909	.724
Privacy issues	41	.049	.369	-.319	.724
Valid N (listwise)	41				

A normal q-q plot is for determination of normality using a graph. From the q-q plot it is evident that data are normally distributed since it points close to the diagonal line.

Normal Q-Q Plot of E_Government
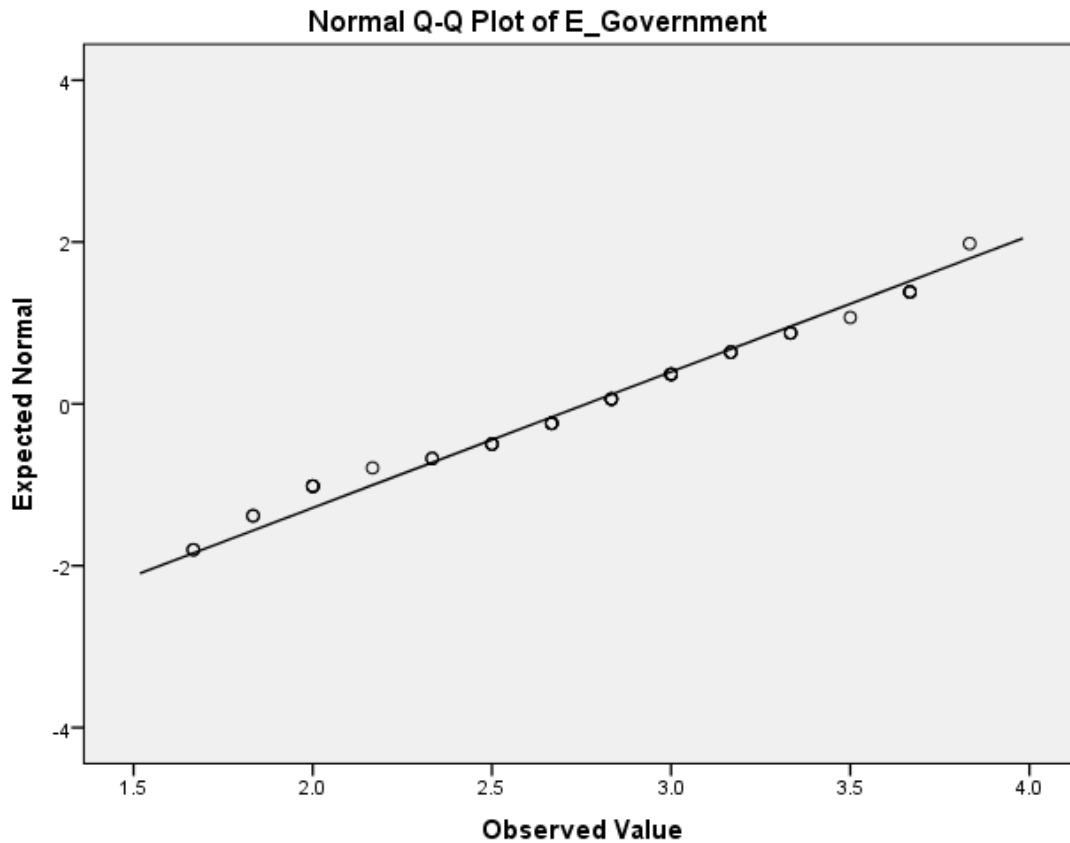
4.4.2 Auto Correlation Test

It is a test done to show the relationship between the independent variables. This was done using Durbin Watson test. Table 4.8 indicated that the Durbin Watson test value was 1.961 which was above the residual statistic range of between -2.173 and 1.774 hence indicating a linear relationship which is not directly depicted. Hence test of multi-collinearity revealed that the independent variables were not directly related to each other.

Table 4.8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.589[a]	.347	.274	.50694	1.961

a. Predictors: (Constant), Literacy level, ICT Infrastructure, Privacy issues, Usability

b. Dependent Variable: E-Government.

Table 4.9 Correlations of Independent variables

		Usability	ICT Infrastructure	Privacy issues	Literacy level
Usability	Pearson Correlation	1	-.006	-.256	-.368[*]
	Sig. (2-tailed)		.969	.107	.018
	N	41	41	41	41
ICT Infrastructure	Pearson Correlation	-.006	1	.309[*]	.052
	Sig. (2-tailed)	.969		.049	.745
	N	41	41	41	41
Privacy issues	Pearson Correlation	-.256	.309[*]	1	.063
	Sig. (2-tailed)	.107	.049		.694
	N	41	41	41	41
Literacy level	Pearson Correlation	-.368[*]	.052	.063	1
	Sig. (2-tailed)	.018	.745	.694	
	N	41	41	41	41

*. Correlation is significant at the 0.05 level (2-tailed).

4.4.3 Cronbach's Alpha

This test was conducted to establish the heteroscedasticity or homogeneous nature of the variables. The study findings are as shown below.

Table 4.10 Heteroscedasticity Statistics

Cronbach's Alpha .718   N of Items 4

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Infrastructure all	10.3500	2.369	.646	.569
Usability all	10.2089	2.202	.728	.512
Privacy all	10.7760	2.051	.578	.619
Literacy level	10.5967	3.742	.121	.817

From table 4.10 above it can be deduced that the variables were heterogeneous in nature hence the Cronbach's values for all the variables were below 10 which is the threshold test value.

4.5 Descriptive Analysis of the Study Variables

The respondents were requested to state their opinion on various user factors affecting their privacy when accessing e-government system. This was done in a scale of 1-5, where 1 represents strongly disagree,2 represent disagree,3 represent neutral,4 represents agree and 5 stands for strongly agree.

4.5.1 Privacy Issues

When asked to state their views on the safety of information when using electronic government, 39% of the respondents strongly agreed with the statement while 26.8% were indifferent.14.6% however disagreed with the statement, 12.2% gave a neutral response and the remaining 7.3% agree to the statement.

Respondents gave their opinions on whether personal information cannot be accessed by others using e-government.36.6% of the respondents agreed to the statement that their

personal data cannot be accessed by other users using e-governmnent.24.4% also agreed to the statement while 17.1% strongly disagreed. A 12.2% of respondents were neutral and 9.8 disagreed with the statement.

Respondents were asked to give opinions on whether they share personal data freely on e-government.46.3% respondents strongly agreed to the statement. However, 29.3%were indifferent. Respondents who disagreed to the statement were 17.1%. Respondent's opinion that showed neutral and agree consisted of 4.9% and 2.4%.

Respondents were asked for their opinion on personal data on e-government theft.48.8% of the respondents disagree to the statement .31.7% strongly agree that someone might steal their personal data.12.2% disagree to the statement.2.4% gave neutral results while 4.9% agree to the statement.

Table 4.11 Privacy Issues

Privacy	N	Str. disagree	Disagree	Neutral	Agree	Str. agree	Total
Personal information is safe when using e-government.	41	27%	15%	12%	7%	39%	100%
Personal information cannot be accessed by other users	41	17%	10%	12%	24%	37%	100%
I share personal information freely	41	29%	17%	5%	2%	46%	100%
Someone can steal personal information	41	49%	12%	2%	5%	32%	100%

4.5.2 Usability Factors

When asked to state their opinion about learning to operate the e-government system,36.6% disagree to the statement.17.1% strongly disagree as well as strongly agree that electronic government is easy to use.14% of the respondents gave neutral and agree responses respectively.

Respondents opinion on whether electronic government system would be easy if they are given training was that 41.5% agree that training would make e-government system easy for them.36.6% strongly agree to the training whetreas14.6 responses gave neutral statement.4.9% of the respondents strongly disagree to the statement while 2.4%disagree as well.

Respondents were asked whether it would be easy be skillful when using e-government.34.1% disagrees to the statement. 26.8% of the respondents agree that they would be skillful when using e-government.17.1% strongly agree to the statement as well as having neutral response. Respondents with 4.9% strongly disagree to the statements.

Respondents were asked for an overall opinion on e-government whether it is easy to use.31.7% disagreed to the statement.22.1% strongly disagreed with the statement. Respondents who agreed constitute 22.0%. The other 19.5% gave neutral responses and 4.9% strongly agree

Table 4.12 Usability factors

Usability Expectations

	N	Strongly disagree	Disagree	Neutral	Agree	strongly agree	Total
Operating the electronic government system is easy for me	41	17%	37%	15%	15%	17%	100%
Electronic government system easy to use given training	41	5%	2%	15%	42%	37%	100%
Become skillful in using the electronic government system is easy	41	5%	34%	17%	27%	17%	100%
Generally electronic government system is easy to use	41	22%	32%	20%	22%	5%	100%

4.5.3 ICT Infrastructure

Respondents' opinion on ICT infrastructure varied.31.7% strongly disagree to the statement.24.4% gave neutral response as well as agreed to be having necessary resources. Respondents who disagreed to the statement are 12.2% while those who strongly agree to the statement were 7.3%

When asked on the resources, opportunities and knowledge it takes to use the electronic government whether it would be easy to use electronic government, 39.0%agreed to the statement. Respondents comprising of 22% strongly agreed to the statement. Other respondents who gave neutral statement were 17.1%. Other respondents disagreed to the statement with 14.6% and those who strongly disagreed were 7.3%.

Respondents opinion on whether they have experience to use e-government services paved way for different responses.41.5% of the respondents disagree to the statement while 26.8% agree that they have enough experience to use e-government system.19.5% gave neutral responses and those that strongly agree were 9.8%. The remaining 2.45 strongly disagreed to the statement.

Opinions from respondents on their thought about high government involvement to support e-government.26.8% of the respondents do not agree to the statement.24.4% strongly disagree that there is high government involvement to support electronic government.22.0% of the respondents were neutral in their responses. Other respondents of 14.6% agree to the statement while 12.2% strongly agree.

Respondents were asked to give opinions on satisfaction in terms of safety provided by the system.41.5% say they are not satisfied and they disagree to the statement.22.05 of the respondents strongly disagree. Respondents with 19.5% gave neutral responses while 12.2% agree. Remaining percentage of 4.9% strongly agree to the statement.

Opinion on whether the respondents are planning to use electronic government system in future are as follows, 53% agree that they will use e-government in future.19.5% express a different opinion to the statement while 17.1% strongly agree to use e-government in future. There was no response on those who strongly disagree to the statement.

Respondent's opinion on adopting e-government adoption was asked. Responses were that 58.5% will adopt e-government in future, 22% gave neutral opinion, and 17.1% strongly agreed to the statement while no response was received on strongly disagree.

Table 4.13 CT Infrastructure

ICT infrastructure	41	Strongly disagree	Disagree	Neutral	Agree	strongly agree	Total
Resource availability for e-government	41	12%	32%	24%	24%	7%	100%
System usage given the resources	41	7%	15%	17%	39%	22%	100%
Internet experience for e-government use	41	2%	42%	20%	27%	10%	100%
Government support for e-gov project.	41	24%	27%	22%	15%	12%	100%
Satisfaction level on security and privacy measures	41	22%	42%	20%	12%	5%	100%
Plan to use e-govt in future	41	0%	10%	20%	54%	17%	100%
Intention to adopt e-govt system in the future	41	0%	2%	22%	59%	17%	100%

4.5.4 Literacy level

Respondent's opinion on having knowledge and skills to use a computer was put across.34.1% of the respondents strongly disagreed as well as disagreed to the statement. Respondents with 14.6% agreed to the statement. Responses from other respondents showed that12.1%strongly agree to the statement and 4.9% have neutral responses.

Respondent's opinion on the importance of learning to use computers gave several responses. 53.7% agree to the statement, 26.8% strongly agree, 9.8% of the respondents gave neutral results. The respondents then gave 7.3% as strongly disagree with 2.4% gave a response of disagree.

Responses on the thought that computers are difficult to use were different based on each respondent.61%% of the respondents agree to the statement.24.4% strongly agree that computers are difficult to use. Neutral responses were 9.8. Strongly disagree responses was 4.9% while disagree had no response.

On lack of computer-based materials, 34.1% strongly agree and agree respectively to the statement, 26.8% gave neutral response.4.9% strongly disagreed with the statement. No response from respondents who disagree.

Table 4.14 Literacy Level

Literacy level	N	Str. disagree	Disagree	Neutral	Agree	Str. agree	Total
I have knowledge and skills to use a computer	N	34%	34%	5%	15%	12%	100%
I believe it is important for me to learn how to use computers	N	7%	2%	10%	54%	27%	100%
I think that computers are difficult to use	N	5%	0%	10%	61%	24%	100%
I lack computer based materials that enable me to learn	N	5%	0%	27%	34%	34%	100%

4.5.5 Electronic Government Adoption

Respondent's opinions about electronic government based on the ease of access of electronic government ability to use and whether are satisfied with the services being rendered to them was put across. The table below the various responses received

Table 4.15 Electronic Government

E-government	N	Str. disagree	Disagree	Neutral	Agree	Str.agree	Total
Access to government information and services online 24/7	41	22%	51%	10%	15%	2%	100%
Usefulness and availability of e-govt systems.	41	24%	24%	2%	22%	27%	100%
Use of government system to accomplish tasks faster	41	7%	29%	10%	17%	37%	100%
e-government integration with other government services.	41	32%	22%	2%	32%	12%	100%
Overall, the electronic government system is useful to me and other citizens	41	10%	29%	5%	32%	24%	100%

4.6 Regression Analysis

Regression analysis showed the relationship of the variables under study. The results are as shown in table 4.17.

The adjusted R square was found to be 0.274 indicating that 27.4% of the variations or changes in e-government were explained by the changes in privacy, ICT infrastructure, usability factors and literacy level. The other 72.6% variations were as a result of other factors not in the model.

Table 4.16 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.589[a]	.347	.274	.50694	.347	4.780	4	36	.003	1.961

a. Predictors: (Constant), Literacy level, ICT Infrastructure, Privacy issues, Usability

b. Dependent Variable: E-Government

4.6.1 Coefficient Correlations

The coefficient correlations table is used to generate beta that is used in the regression model. Unstandardized coefficients error will be used since it can easily adjust if another variable is added unlike standard coefficients that are difficult to adjust.

Table 4.17 Coefficient Correlations

Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B Lower Bound	95.0% Confidence Interval for B Upper Bound	Collinearity Statistics Tolerance	Collinearity Statistics VIF
(Constant)	3.958	.659		6.005	.000	2.621	5.295		
Usability	.180	.118	.229	0.524	.136	-.059	.419	.802	1.246
ICT_Infrastructure	-.360	.129	-.396	-3.784	.009	-.621	-.098	.894	1.118
Privacy	-.023	.098	-.034	-.0.34	.819	-.222	.177	.837	1.194
Literacy	-.140	.078	-.259	-0.782	.083	-.299	.019	.860	1.163

a. Dependent Variable: E-Government

The coefficients of correlations table 4.18 shows the values of beta coefficients used in the regression model. Unstandardized coefficients error will be used since it can easily adjust if another variable is added unlike standard coefficients that are difficult to adjust. If the coefficients are substituted in the model, the expression becomes:

$Y= 3.958-0.23X_1-0.360X_2+1.80X_3-1.40X_4$

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Summary of findings, conclusions and recommendations will be discussed on this chapter. Conclusion and recommendation concentrate on the purpose of the study. This study will look at how privacy, usability factors, cost of ICT infrastructure, literacy level and demographic factors influence adoption of e-government.

5.2 Summary of Findings

One of the objectives of the study was effect of privacy of users when accessing electronic government. From the data collected it can be deduced that users do not have trust in the online system of government delivery of services through e-government. From the data collected a mean there was a mean of 3.1220 which means respondents are neutral, they are neither inclined to agree nor disagree.

Respondents responded by stating that electronic government would be easy to use only if they are given suitable training. This therefore means more training on the users should be put in place to increase government adoption. From the overall responses on usability factor the mean was 2.7439 that indicate the respondents agree that training should be put in place.

Respondents point of view on resource availability, opportunities and knowledge they would find electronic government easy to use.. From the data collected, the mean for these respondents was 3.3624 that signify that they are neutral as per the Likert scale.

Another objective was to investigate how demographic factors affect the adoption of electronic government. This study revealed that most of the respondents have bachelors and above in their educational level and it constitute 75.6%. Those respondents with secondary education or less have 24.4% in the population of study. It can be noted that most respondents have knowledge and skills to use internet.

Frequency of using internet is high on a daily basis based on the responses from the respondents and constitutes 78% this could be a possible reason due to high usage of smartphones that enable internet access.

From the data collected, respondents gave their opinions on the knowledge and skills of using computers to access e-government. Some responded by saying that they lack the necessary resources to learn to use computers. Respondents with a mean of 2.9146 agree to the statements.

5.3 Study Conclusions

The main objective of the study was to determine the effect of user factor on e-government adoption. From the study it can be noted that skills on the use of e-government has an impact on slow adoption of electronic government. Respondents also showed lack of trust in using e-government. Measures need to be put in place that protects the user's information from being manipulated by malicious people. Training centers should be put in place where users can be trained on the usage of e-government.

Usability factor has also been expounded in the study where respondents agree that given the necessary resources and opportunity, they can use electronic government with ease. Measures to maintain the electronic government platform and regularly updating information is important since it attracts new users as well as frequent users.

5.4 Study Recommendations

From the study, there is need to promote ICT usage through various campaigns that increase the users' awareness about e-government. It may involve extensive marketing of the digital platforms to ensure that they are sensitized on the advantages of using e-government.

Users also need to be trained on how to protect their data when using e-government. For instance, they should understand that passwords and usernames are confidential and should not be shared with anyone. They should also understand that it is recommended to log off their account after accessing the service or lock the computer or smart phones when not using.

Training forums should be implemented so that users can be able to participate in accessing e-government with the help of an expert. Monitoring and evaluation should be constant on the electronic government platform in order to compare objectives and performance. It will also help to track a downtime of the system in case it occurs.

5.5 Suggestions for Further Research

From the conclusions and findings further research needs to be done on how various departments in the public sector integrate in order to achieve the objective of electronic government adoption. How government policies and top management support the adoption of electronic government should be considered an area of study.

REFERENCES

Kothari, U. & Minogue, M. (2002). *Critical perspective on development: an introduction, in Uma Kothari and Martin Minogue (Eds.).* Development Theory and Practice. Critical Perspectives, Palgrave Macmillan, Houndmills, Basingstoke, 1-15

Adeyemo, A. B. (2011). E -government implementation in Nigeria: An assessment of Nigeria's global e- gov ranking. *Journal of Internet and Information System*, *2*(1): 11-19.

Alshehri, M., Drew, S., Alhussain, T. and Alghamdi, R. (2012), the effects of website quality on adoption of e-government services: *an empirical study applying UTAUT model using SEM, 23rd Australasian Conference on Information Systems,* 11 (1): 57-83

Alshibly, H., & Chiong, R. (2015). Customer empowerment: Does it influence electronic government success? A citizen-centric perspective. *Electronic Commerce Research and Applications*, 14(6), 393-404.

Barua, A, C.H. S. Lee and A. B. Whinston (1996) The Calculus of Reengineering,*Information System Research,* 7(4) 409-428.

Bwalya, K.J. and Healy, M. (2010), Harnessing e-government adoption in the SADC Region: a conceptual underpinning, *Electronic Journal of E-Government*, 8 (1): 23-32.

Carter, L. and F. Bélanger (2005) The Utilization of e-government services: citizen trust, Innovation and acceptance, *Information Systems Journal,* 15(1), 5-25.

Choudrie, J. and Papazafeiropoulou, A. (2006), Lessons learnt from the broadband diffusion in South Korea and the UK: implications for future government intervention in technology diffusion, *Electronic Government, an International Journal*, 3 (4): 373-385

Cumbie, B. A., and B. Kar (2014). *A Study of Local Government Website Inclusiveness*: *The Gap Between E-government Concept and Practice*. Information Technology for Development, 1-20.

Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. (1989), User acceptance of computer technology:*a* comparison *of two theoretical models, Management Science*, 35(8): 982-1003

Dwivedi, Y., and Weerakkody, V. (2007), examining the factors affecting the adoption of broadband in the Kingdom of Saudi Arabia, *Electronic Government,* AnInternational Journal, 4(1):43-58.

Gefen, D., Karahanna, E. & Straub, D. (2003) Trust and TAM in online shopping: an Integrated model. MIS Quarterly, 27, 51–90.

Zhao, F., Shen, K.N. and Collier, A. (2014b), Effects of national culture on e-government Diffusion: *a global study of 55 countries, Information and Management*, 51(8):1005-1016

Goodhue, Dale and Thompson, Ronald. 1995. Task-Technology Fit and Individual Performance, *MIS Quarterly*, 19(2):213-236

Grant, G. and Chau, D. (2005), "Developing a generic framework for e-government, *Journal of Global* Information *Management*, 13 (1,): 1-29.

Horst, M., Kuttschreuter, M. and Gutteling, J. (2007), Perceived usefulness, personal experiences, risk perception and trust as determinants of adoption of e-government services in The Netherlands, *Computers in Human Behavior*, 23 (4). 1838-1852.

Huang, Z. (2007). A comprehensive analysis of U.S. counties' e-Government portals: Development status and functionalities, *European Journal of Information Systems*, 16 (2):49-164.

Hung, W., Chang, I., Li, Y. and Hung, H. (2005), An empirical study on the impact of Quality antecedents on taxpayers' acceptance of internet tax filing systems, *Government Information Quarterly*, 22 (3): 389-410.

Jaeger, P.T. (2003) The endless wire: E-government as global phenomenon,*Government Information Quarterly,* 23(3) 646-665

Jaeger, P.T. (2006) Assessing Section 508 Compliance on Federal e-Government Web sites: A Multi-method, User-centered Evaluation of Accessibility for Persons with Disabilities, *Government Information Quarterly*, 23(2): 169-190.

Jenny Rowley, (2014) Designing and using research questionnaires, *Management Research Review,* 37 (3):308-330.

Kaaya J (2004). Implementing e-Government Services in East Africa: Assessing Status Through Content Analysis of Government Websites. *Electro. J. e-Govern.*,2, (1): 39-54.

Kumar, V., Mukerji, B., Butt, I. and Persaud, A. (2007), Factors for successful e-government   Adoption: a conceptual framework, *Electronic Journal of e-Government*,5 (1): 63-76.

Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology, 42*, 116–131

Maumbe, B.M., Owei, V. and Alexander, H. (2008), Questioning the pace and pathwayof e-government development in Africa: a case study of South Africa's Cape gateway project, *Government Information Quarterly*, 25(4) :757-777.

McKnight, H. & Cummings, L. (1998) Initial trust formation in new organizational Relationships. *Academy of Management Review*, 23(3) 473–490.

Njeru H. N & Orodho A.J (2003). *Access and participation in secondary School Education In Kenya*: Emerging Issues and Policy Implications, IPAR Discussion paper NO. 037/2003 ISBN 9966-948-27-9.

Norris, D.F. and D.A. Lloyd (2006) The Scholarly Literature on E-Government: Characterizing a Nascent Field, *International Journal of Electronic Government Research,* 2(4), 40-56.

Norris, D.F. and M.J. Moon (2005) Advancing E-Government at the Grassroots: Tortoise Or Hare? *Public Administration Review,* 65(1), 64-75.

Norshita, M. N., Halimah, B. Z., & Tengku Mohdammad, T. S. (2010). Public user Assessment of Malaysia's e-Government applications. *World Academy of Science, Engineering and Technology,* 43(5) :813-817.

Rokhman, Ali (2008) Potret dan Hambatan E-Government Indonesia, *Journal Invasion, Persatuan Pelajar Indonesia (PPI) Jepang*,2 (5), 228-236.

Sang, S., Lee, J.-D. and Lee, J. (2010), E-government adoption in Cambodia: a partial least Squares approach, Transforming Government*: People, Process and Policy,* 4 (2):138-157.

Saxena, K.B.C. (2005), towards excellence in e-governance, *International Journal of Public Sector, Managemen*t, 18(6): 498-513.

Nielsen, J. (1994). Enhancing the explanatory power of usability heuristics. In Proceedings of the SIGCHI conference on Human Factors in Computing Systems, 152-158

Sharma, S. and Gupta, J. (2003), Building blocks of an e-government – a framework, *Journal of Electronic Commerce in Organizations*, 1 (4): 1-15.

Tat-Kei Ho, A.: Reinventing local governments and the e-government initiative.*Public Administration Review* 62(4), 434–445.

Weerakkody, V., Dwivedi, Y.K., Brooks, L., Williams, M.D. and Mwange, A. (2007), E-Government implementation in Zambia: contributing factors, Electronic Government: *An International Journa*l, 4 (4):484-505.

Wu, J. (2014). Applicable Study for Multi-linear Regression Analysis and Logistic Regression Analysis. *The Open Electrical & Electronic Engineering Journal*, 8(1):782-786.

Venkatesh, V., Morris, M., Davis, G., and Davis, F. User Acceptance of Information Technology: Toward a Unified View, MIS Quarterly, 27(3):425-478.

Choudrie, J. and Lee, H. "Broadband development in South Korea: institutional and Cultural factor, European Journal of Information Systems, 13(2) :103-114.

Gant, D.B. and Gant, J.P. (2002), Enhancing E-Service Delivery, E-Government Series, State Web Portals: Delivering and Financing E-Service, Pricewaterhouse Coopers Endowment, 19(2):213-236

Carter, L. and F. Bélanger (2004) Citizen Adoption of Electronic Government Initiatives, Proceedings of the 37th Hawaii International Conference on System Sciences, 3 (1):76 -82.

Likert, R. (1932). A Technique for the Measurement of Attitudes.*Archives of Psychology*, 3(4): 1–55

Mugenda and Mugenda, research Methods, Nairobi Enon J.C (1998) Educational Research, statistics and measurement, 2003.2(11): 30-38

APPENDICES.

Appendix 1: Questionnaire

EFFECT OF USER FACTORS ON E-GOVERNMENT ADOPTION IN THE PUBLIC SECTOR IN KENYA

USER FACTORS ON ADOPTION QUESTIONNAIRE

General Information

Date of survey	dd	mm	yy
County			
Questionnaire serial No.			

BACKGROUND

Electronic government involves using electronic communications devices such as computers and the Internet to provide public services to citizens and other persons in a country or region. A good example of e-government platform is the E-citizen, where you get identification cards renewed, driving license application, birth certificate, clearance from HELB among others. The questionnaire does not contain any directly identifiable information; therefore, confidentiality is maintained. While your participation in this study is optional you are kindly requested to indicate your level of interaction with electronic government.

SECTION I: <u>DEMOGRAPHIC INFORMATION</u>

This section will collect general descriptive information of the participant.

(Kindly tick one answer per question)

1.	Level of education	☐ High school
		☐ Undergraduate
		☐ Postgraduate
2.	Number of years have you been using the Internet	☐ 1 – 6 months
		☐ 7 – 11 months
		☐ 1 – 2 years
		☐ 3 – 4 years
		☐ more than 4 years
3.	What is your frequency of using internet?	☐ Everyday
		☐ Several times a week
		☐ Several times a month
		☐ Once a month
		☐ Never
4.	Frequency of using Internet to gather information about or from the government?	☐ Everyday
		☐ Several times a week
		☐ Several times a month
		☐ Once a month
		☐ Never
5.	Ever used electronic government system before?	☐ YES
		☐ NO

SECTION II: USER FACTORS

Circle one number based on your opinion.

1 = Str. Disagree. 2 = Disagree. 3 = Neutral. 4 = Agree. 5 = Str. Agree

	Privacy					
6	Personal information is safe when using electronic government	1	2	3	4	5
7	Personal information cannot be accessed by other users using electronic government	1	2	3	4	5
8	I share my personal data freely on electronic government	1	2	3	4	5
9	someone might steal my personal data on electronic government and use it for personal gains	1	2	3	4	5
	Usability Factors					
10	Learning to operate the electronic government system is easy for me	1	2	3	4	5
11	I would find the electronic government system easy to use if I got suitable training	1	2	3	4	5
12	Becoming skilful is easy when using the electronic government system	1	2	3	4	5
13	My opinion is that online government system is simple	1	2	3	4	5
	ICT Infrastructure					
14	resources necessary to use the online government system are at my convinience	1	2	3	4	5
15	Given the resources, opportunities and knowledge it takes to use the electronic government system, it would be easy for me to use the system	1	2	3	4	5
16	I have experience in using internet and electronic government services	1	2	3	4	5
17	Given the resources, opportunities and knowledge it takes to use the e-government system, it would be easy for me to use the system	1	2	3	4	5

18	I have enough Internet experience to use the electronic government services	1 2 3 4 5
19	There is high government support towards the e-government project.	1 2 3 4 5
20	I plan to use electronic government system in the future	1 2 3 4 5
21	I intend adopting e-government system in the future	1 2 3 4 5
	Literacy level	
22	I have knowledge and skills to use a computer	1 2 3 4 5
23	I believe that it is important for me to learn how to use computers	1 2 3 4 5
24	I think that computers are difficult to use	1 2 3 4 5
25	I lack computer-based materials that enable me to learn	1 2 3 4 5
	E-government	
26.	Online government system enables users to access online government services on a continuous basis day or night	1 2 3 4 5
27.	The electronic government portal does not contain sufficient information to enable users access the required services.	1 2 3 4 5
28.	Electronic government system will enable me to accomplish tasks more quickly	1 2 3 4 5
29.	I do not think that the electronic government project integrates well with other government agencies/ministries	1 2 3 4 5
30	Overall electronic government is useful to me and other citizens	1 2 3 4 5

Appendix II: Activities and Timelines

Activity	4th -28th September 2018	1st - 5th October	8th-23rd October	25th October - 23rd November	5th -12th November
Proposal writing	■				
Questionnaire structure and approval for presentation		■			
Collection of data			■		
Analysis of Variables				■	
Report presentation					■
Documentation	■	■	■	■	■

Appendix III: Research budget

ITEM	COST (Ksh.)
Transport	3000
stationery	2000
Secretarial work	5000
contingency	5000
Printing and binding	5000
TOTAL	**20000**