INFORMATION COMMUNICATION TECHNOLOGY CONSIDERATIONS AND REVENUE COLLECTION IN NAIROBI CITY COUNTY, KENYA

BY

ROTICH KIPKEMOI BENARD

D53/29550/2014

RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILMENT FOR THE AWARD OF MASTERS DEGREE IN BUSINESS ADMINISTRATION (MANAGEMENT INFORMATION SYSTEMS) OF KENYATTA UNIVERSITY

AUGUST, 2018

DECLARATION

This study is my original work and has not been submitted for award of a degree in any other university.

SIGNATURE ……. DATE……

ROTICH KIPKEMOI BENARD

D53/29550/2014

The work in this project was done by the candidate under my supervision.

SIGNATURE……. DATE……

DAVID M. NZUKI (PHD)

MANAGEMENT SCIENCE DEPARTMENT,

SCHOOL OF BUSINESS KENYATTA UNIVERSITY.

DEDICATION

This study is dedicated to my parents; my source of motivations and inspirations my brothers and sisters for the encouragement and humble time during the whole of study duration.

ACKNOWLEDGMENTS

My Special thanks go to my supervisor Dr. David Nzuki for his resourcefulness, patience, guidance and dedication without which I would not had successfully concluded this study. My gratitude goes to Mr. Charles Choi Director, Human Resource Development Nairobi City County government for the guidance in conceptualization of the study, encouragement, and continuous monitoring of the progress. Also I express my deepest appreciation and gratitude to all those who contributed to the completion of this study including my course mates.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

OPERATIONAL DEFINITION OF TERMS

Conceptual framework	Refers to the theoretical structure assumptions, principles and rules that holds together the ideas comprising a broad concept.
Considerations	These are the features which are related to ICT which affects revenue collection.
County government	County government is local government, County is local government and provides local government services.
E-government	This is the use of information and communication technologies (ICTs) to improve the activities of public sector organizations.
Employee's perception	Refer to the outcome on how the employees of a given organization interprets the outcome of any system or the activity.
Financial allocation	Resources set aside to facilitate the accomplishment of the certain objective.
Government policies	These are the rules and regulations which guides the citizens/residence of the given state.
ICT Policies	These are the guidelines rules which are being followed when collecting revenues as far as using the Information Communication Technology devices during processing of a certain task.
ICT	Information communication technology (ICT) is the integration of telecommunications devices such as computers and as well as necessary enterprise software that facilitates exchange of the information.
JamboPay system	It is an online payment gateway that allows users to securely make and receive payments through mobile phone over internet.
Revenue collection	Refers to a process of collecting the taxes.

Revenue	Refers to the money collected by the government from several sources inform of taxes within the area of jurisdictions for service delivery to its citizens.

ABBREVIATIONS

ANOVA	Analysis of Variance
BOFFIN	Bishop Office Freights Forwarders Integrated Network.
CRA	County Revenue Authority.
EFB	Electronic Flight Bag.
ICT	Information Communication Technology.
IFMIS	Integrated Financial Management Information System.
KRA	Kenya Revenue Authority.
KTCIP	The Kenya Transparency and Communication infrastructure Project.
NACOSTI	National Commission for Science Technology and Innovation
PEU	The perceived ease use.
PFM	Public Finance Management.
PU	Perceived usefulness.
SCM	Supply Chain Management.
SPSS	Statistical Package for Social science.
UTAUT	Unified theory of acceptance and use of technology.
VAT	Value Added Tax.

ABSTRACT

Counties in Kenya have adequate revenue based in financing their current services, but the collection levels are often low. Thus the counties are striving to re–engineer strategies towards improvement of revenue collections since it is their mandate to offer quality and timely service delivery to the residents and they cannot proceed well without enough finances to run crucial activities. The study therefore sought to investigate Information Communication Technology considerations and revenue collection in Nairobi City County government, Kenya. The study was guided by specific objectives such as the Information Communication Technology policies, Employee's perception and financial allocation on revenue collection. The theories which were used to support the study were Unified Theory of Acceptance and use of Technology, Technology, Organization and Environment and Technology Acceptance Model. The study used a target population of 115 and a sample size of 35 respondents working in 8 sectors/departments in Nairobi City County government and that constituted 76.1 percent of the sample population. The data collection procedure which were used was questionnaires by the use of drop and pick method. Questionnaires had both close ended questions and matrix questions with Likert scale of 0-4. The quantitative data was analyzed using descriptive and inferential statistics through the use of application software called Statistical Package for Social Sciences (SPSS version 16) and information was presented using tables, charts and graphs. The study came out with findings, summary, conclusion and recommendations. The study concluded that, Information Communication Technology policies on revenue collection, Employee's perception on revenue collection and financial allocation on revenue collection all were significant on Revenue collection since the F value was found to be 71 percent with 95 percent level of confidence. Thus 29 percent are other factors which affect revenue collection. Therefore, the study recommended that county governments in Kenya should make the ICT policies on revenue collection awareness, training employees on the use of ICT on revenue collections and proper mechanism of funds allocation for revenue collections policies so as to handle technological changes so as to attain proper revenue collections.

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

Information Communication Technology (ICT) is growing fastest in the world today. Information Communication Technology adoption for running daily administrative and business transactions has made organizations; small, medium and large business enterprises to use it as an enabler tool for managing their daily activities and making work easier. The perceived benefits and usefulness of Information Communication Technology has led to the adoption of Information Technology systems in many organizations both private and public Al-mamary, Shamsuddin, and Aziati, (2014). Information Communication Technology on revenue collection through Electronic tax management applications started in United State of America, and then spread to the developing nations (Muthama, 2013). Value Added Tax revenue (VAT) collection in India has been boosted through the use of ICT as a tool for collecting revenue. ICT adoption addresses the loopholes and seal the leakages of corruption in revenue collection and thus it is efficient and effective to use. ICT adoption replaces inefficient production on revenue collection Githinji, (2014).

Revenue collection in Kenya has been majorly run by both the Kenya Revenue Authority (KRA) and the county government. The use of the ICT and the manual systems both had been used to collect revenues in Kenya. (Maisiba & Atambo, 2016). The use of ICT on revenue collection in local authorities has boost the revenue collection however the revenue has not been to its optimal peak level of collection due to some hindrances factors which inhibits maximum revenue collection. The study seeks to research on the use of ICT on revenue collection in Nairobi county government. Also Ndunda, Ngahu, and Wanyoike, (2015).

The use of ICT in revenue collection has boost the revenue collection in terms of efficiency, reduce corruption, seal the leakages and increase the amount of revenue collection. However, ICT has not been fully used since there were some inhibitors factors which derails ICT use for revenue collection in the counties (Okiro, 2015). According to Maisiba & Atambo (2016), who took a study on Effect of Electronic- Tax System on the Revenue Collection Efficiency of Kenya Revenue Authority narrowed down to Uasin Gishu county

KRA office and not the county government though both sectors collects revenue. On the other hand (Okiro, 2015) under research on effects of e-payment system on his research reveals that the use of ICT in Nairobi City County government however the research study did not reveals the challenges of the use of ICT on revenue collection in the county government and that opened a gap for research. According to Karimi, (2017) about research on effect of technology and information systems on revenue collection by the county government of Embu, identified that ICT plays a key role in revenue collection thought there were other factors which affect the use of ICT on revenue collection.

According to Lundu & Shale (2015), on research about effects of Integrated Financial Management Information Systems (IFMIST) on performance in Supply Chain Management (SCM); found that organization policies and other policies from external on IFMIS had played much part in the implementation of the IFMIS. However a coherent policy framework on overall public finance slow down the IFMIS system for SCM. Through the use of the system it has resulted in elimination of corruption and minimizes the wastage in use of public assets. Top management also affects the implementation of the IFMIS which trigger downs to impact on the performance on SCM. IFMIS in general had a positive attractive performance and it eliminates corruption and fraud. Likewise to the adoption of ICT system on revenue collection, it has some other related Considerations and impact on revenue collection which I would like to research on them. In some cases manual government procurement has been faced by several Considerations such as lack of transparency and inefficient public expenditure. But E-procurement (ICT system) adoption offers many benefits such as enhance transparency and compliance, increase performance and quality. Odago & Dr.Mwajuma, (2013).

According to Githinji, Mwaniki, Kirwa, and Mutongwa, (2014) under the use of ICT on revenue collection in Kenyan counties; found that tax revenue collection was down and poor in most of the counties. County government should adopt the use of ICT for running their daily transactions for instance service delivery and revenue collections in their entire counties since. VAT revenue collection in India has been boosted through the use of ICT as a tool for collecting revenue. ICT adoption replaces inefficient production on revenue collection (Githinji *et al*., 2014). According to Kenya e-Government Master plan (2013), Government has developed a Government Common Core Network (GCCN). That was to

be used to share and to secure interoperability government-wide ICT architecture. The system will integrate workflow process, information flows, improves ministerial sharing of data base to eliminates data redundancies, improves service delivery for instance revenue collection, public access to government services and ensure responsiveness in reporting, monitoring and evaluation.

Nairobi City County has not fully transferred the system to its sub-counties due to some limiting factors such as lack of enough resources and policy framework on ICT adoption (East African Digital Business week Newspaper, 2014). ICT adoption for revenue collection in the counties; maximizes returns and promotes transparency. However adoption of ICT on revenue collection had some determinants such as budget allocation which hinders the implementation (Business Digital Business Daily Nation, 2015).

1.1.1. Revenue Collection

County governments in Kenya originate from the promulgation of constitution of Kenya in the year 2010. Devolved governance were distributed to all 47 counties in Kenya. They were meant for good effective governance and efficient service delivery to the citizens of the entire Nation. County governments requires efficient and reliable sources of revenue for them to run their operations effectively (E. A. Tax, 2014). County governments had constitutionally powers to imposed taxes and charges on various sections on the economy in within their areas of jurisdiction as per the constitution of Kenya; Article 209. Counties gets it revenue from various sources such as car parking, single business permit, rates, rent and other sources allocation from the national government. Counties uses these revenues for various development projects in the respective counties for the main purpose of service delivery to the citizens.

The bodies which are responsible for collecting revenue in Kenya is the national government through Kenya Revenue Authority and the County governments. KRA has digitized its system of revenue collection. For instance initially since 1989 it was using a system called Bishop office Freights Forwarders Integrated Network (BOFFIN) and now it has upgraded to electronic system called Simba as from 2005 to date. Counties too have not been left behind; Nairobi county government has launched JamboPay system which it will aid on revenue collection and management (Muthama, 2013).

Information Communication Technology development, implementation and exploration were an integral to Kenya government and its entire counties. Though it's affected by some factors such as policy framework and resources allocation among other factors (IMF Report, 2010). Revenue collection among the counties in Kenya reduces the dependencies from the National government and it increases their ownership of the development process as well as strengthening the county capacity. (United Nations Report, 2005). All the counties in Kenya were responsible in revenue collection and they are ranked by the County Revenue Authority (CRA) as per performance of collection and their distribution (E. A. tax and governance Tax, 2014). Some of these counties had introduced the use of ICT so as to aid in revenue collection. ICT adoption will seal the loopholes which were existing through the use of the IT system. For instance Nairobi City County had adopted a financial information system called JamboPay system that will aid in revenue collection (Nairobi City County Fiscal policy, 2013/2014).

World Bank had been assisting the developing countries through donations. It has support Nairobi County with funds so as to adopt the use of ICT in revenue collection so as to enhance accountability. The Kenya Transparency and Communication infrastructure Project (KTCIP); has help the counties with funds to develop master plan for ICT. JamboPay system which was used for revenue collection by Nairobi City County was funded by World Bank through the Information Communication Technology Authority also ICT adoption in the counties for revenue collection sealed the loopholes, curbed corruption and promoted transparency on revenue collection (World Bank report, 2014).

According to Cherotich & Okibo (2016), conducting study on factors affecting effective implementation of Integrated Financial Management Information System (IFMIS) by the county governments of Kenya. Found that counties in Kenya faces several Considerations in adoption and implementation ICT in their counties. The use of IFMIS was to start from county headquarters then to their respective sub-counties but so far no any county had transferred it to sub-county. Some of the counties headquarters had not yet fully integrated due to some limitations. The public Finance Management (PFM) Act, 2012 requires counties to adopt IFMIS since 2003; but the implementation has not been fully implemented.

Revenue collection among the counties enables them to acquire assets which are not liable to debt and which the government uses to develop its economy and improves living standards of its people as well as better service delivery. However, revenue collection in the developing economies in counties has not always been as effective as it should be (Ngotho & Kerongo, 2014).To eliminate or significantly reduce corruption, the e-payment revenue collection project provides an alternative means of payment of county revenue that do not require cash to exchange hands (Kinyanjui & Kahonge, 2013).

Nairobi County government was the first county to adopt ICT on revenue collection through e-payment system called JamboPay in Kenya, which went live to bring efficiency and convenience in revenue collection .Users of city parking space can make payments using mobile money, debit cards, over-the counter payments at 29 partner banks and at independent agent stalls spread across the city. All the digital payment options offered were linked to the system through the Nairobi County e-wallet that was created on signing up. No charges were incurred when making payments through independent agents, the e-county mobile app and using mobile money, but banks offering the service may impose a charge on transactions. The ICT e-payment system in Nairobi County was used for collecting revenues from parking fees, single business permit, rent and land rates. (Njanja, 2014).

1.1.2. ICT and to Revenue Collection

Information communications technology (ICT) refers to all the technology used to handle telecommunications, broadcast media, intelligent building management systems, audiovisual processing and transmission systems, and network-based control and monitoring functions.

Information communication technologies (ICTs), and e-Government improves efficiency and effectiveness of internal administration within government and facilitates re-locations of government service from government offices to locations closer to the citizens. Examples of such locations were Huduma Centers, cyber cafe, telecenters or a personal computer at home or office or even the use of mobile phones. Benefits of ICT in government cannot be disputed, there were several concerns about its success as well as the plans to be adopted in implementation of systems in various countries. There were

several drivers for success of ICT in the government as well as there were also inhibitors of failures which hiders the ICT in both developing and developed countries. Developing nations were far behind the e-government and the complete installations of the ICT projects in the government especially for revenue was a strong milestone foundation for e-government initiative progress though its application was affected by several factors. Taking Kenya as a developing Nation also faces several inhibitors or determinants to the success of the use of the ICT system on revenue collection though the benefits were paramount (Gichoya, 2005). According to Maisiba & Atambo (2016), on effects electronic tax system on revenue collection efficiency on Kenya revenue authority. Found that through the use of the electronic tax system (Etax) on revenue collection was efficient and it has resulted in positive deviation on revenue collection and also seal the loopholes of corruption. Since the system accepts the use of mobile phone for filling returns online. ICT was efficient on revenue collection and for faster service delivery (Maisiba & Atambo, 2016).

Through rapid technological changes in tax and revenue systems, it has make work to be more efficient than before. There was a demand need to integrate the revenue system modules since the new upcoming programs were being developed to facilitate financial process (Adams, 2002). The amount of data being processed each year demands for suitable setup, so as to accomplish the process of financial fiscal (Maxwell, 2005).

1.2. Statement of the Problem

Revenue collection process has been challenged with several malpractices such as corruption, misallocation, low revenue collection, collusions by tax collectors and tax payers on revenue collections, evasions of revenue collections and disrespect of the rule of law on revenue collections among the County Governments in Kenya. Most government faces serious limitations in their revenue collection they were not able to collect sufficient funds to cover their budget expectations. Many counties collect minimal revenue due to the poor methods of collection. (Kamande, 2014). Significant measures had been integrated for instance the adoption of ICT JamboPay system in Nairobi County government to aid in revenue collection so as to achieve the expected objective. (Okiro, 2015),

According to (Otieno *et al*., 2013), who studied on Effect of Information Systems on Revenue Collection by Local Authorities: a case of HomaBay County found that ICT boost the revenue collection. However, ICT systems on revenue collection was not sufficient as it was expected. That was due to ICT on revenue collection was affected by other factors such as Revenue policies, political situation, or ICT support systems among other causes these results in either low or higher performance on revenue collection.

Study done by Ndunda, Ngahu, & Wanyoike (2015), on analysis of factors influencing optimal revenue collection by county governments: Nakuru County, found that competence of clerks and compliance of policy frame work about revenue collection had impact on revenue in the County Government. However, their study hence failed to show the other challenges which affects the optimal revenue in County Governments since the researcher uses only two variables and thus opens a gap for the study on ICT considerations on revenue collection in Nairobi County Government.The reviewed researchers had studied Revenue collections in Kenya, but had not addressed ICT Consideration on Revenue collection in County Governments. It was against the background that the study sought to investigate the ICT consideration on revenue collection in Nairobi County Government.

1.3. Research Objectives

1.3.1. General Objective

The general objective of the study was to investigate, Information Communication Technology Considerations on revenue collection in Nairobi City County government in Kenya.

1.3.2. Specific Objectives

The study research was guided by the following specific objectives: -

i. To investigate ICT government revenue policies and revenue collection in Nairobi City County government.

ii. To determine the employees' perception and revenue collection in Nairobi City County government.

iii. To examine the effects of financial allocation and revenue collection in Nairobi City County government.

1.4. Research Questions

The study was guided by the following research questions: -

i. How does ICT government revenue policies affect revenue collection in Nairobi City County city government?

ii. What effect can employees' perception had on revenue collection in Nairobi City County government?

iii. What effects does financial allocation had on revenue collection in Nairobi City County city government?

1.5. Limitation of the Study

Government has their unique mode of running their activities and releasing of information, the findings of the study may not give the true conclusion and recommendation and also the government is complex in its nature of work and composed of red tape bureaucracy,

thus might not be sufficient to gather the most sensitive information of the organization. The employees as a source of data thought that the new ICT system was to replace them on their daily routine tasks thus they were not to in a position to provide the genuine information due to fear and thus it was to undermine the data analysis and the conclusion. Those were overcome by explaining to them the purpose of the study so as to give a genuine information and also letter from Kenyatta University and the letter from NACOSTI were obtained before data collection

1.6. Significance of the Study

The study report was expected to help to Nairobi City County government policy makers in identifying the key challenges in ICT on revenue collection and coming up with strategies that will lead to improved quality and efficiency on revenue collection. The study will also be helpful to future researchers who could use the study as a source of reference. The study will assist the decision makers in ICT sector from playing their rightful role in national, County and sub-counties strategies on revenue collections among the county leaders such as the governor and deputy, county ministers, members of county assembly (MCA) and county employees in general to know the importance of the use of ICT towards revenue collection and the extent to which it increase revenue collection in the county especially on the employees perception and the financial allocations on ICT related equipment and support.The researcher expects that result of the study will be useful to future researchers with interest in examining further on ICT on revenue collection among other counties. That could lead to the generation of new ideas for the better use of ICT on revenue collection.

1.7. Scope of the Study

The research study was carried out in Nairobi City County government in Kenya since Nairobi was the ICT Hub and many ICT projects had been initiated in Nairobi. Nairobi was among the first counties to use ICT on revenue collection through the aid of World Bank to initiate a revenue collection system called JamboPay. Nairobi County provided information in depth since the employees who were the source of data had interacted with the system on their daily transactions when processing the revenue transactions activities.

1.8. Organization of the Study

The arrangement of the project report as from chapter one begins with, background of the study, chapter two covers literature, chapter three covers methodology, chapter four covers data analysis, presentation and discussions, finally chapter five covers summary, conclusion and recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

This chapter presents review of literature and ICT on revenue collection. It first discusses three theories that provide the theoretical background of the study. The theories were: Unified Theory of Acceptance and the Use of Technology, Technology Organization and Environment and the Theory of Technology Acceptance Model. The chapter also discusses the concepts on revenue collection such as: ICT policies on revenue collection, employee's perception on the use of ICT on Revenue collection and ICT financial allocation on revenue collection ending up with a conceptual framework explaining the relationship between the Information communication technology and the revenues, summary of literature review & research gaps.

2.2. Theoretical Review

The theories which were identified for the study were; unified theory of acceptance and use of technology, technology, organization and environment and technology acceptance model.

2.2.1. Unified Theory of Acceptance and Use of Technology (UTAUT)

The Theory was first developed by Dan Bogozi and Warhaw (1989), initially it was called Theory of acceptance (TA). Then it was validated later to UTAUT by Venkatesh, V., Morris, M., Davis, G., and Davis, F. (2003). Performance expectancy, effort expectance and social influence had a positive effect on behavioral intention had moderator effects on gender, age, experience and voluntariness of use.

According to Schaik (2009), who study on UTAUT and use of website by the students in the higher education found that UTAUT among the students were influenced by the factors such as Performance expectancy, effort expectant and social influence. Thus as a case of use of ICT by Nairobi City County government the related factors could be the influence too though other factors could be the determining. Though the perceived ease of use (PEOU) and perceived usefulness (PU) were the key determinants of the adoption and integration of the system as per VLE and library system the user lacking the knowledge of operating the system was not effectively use the system thus affect productivity (Schaik,

2009). The perceived ease of use (PEOU) and perceived usefulness (PU) has the positive influence on adoption and consumption of new innovation (Taiwo & Downe, 2013). The pillars of these theory from the various researchers which supported the study were performance expectancy, social influence, and perceived ease of use and perceived usefulness. The theory was relevant to the study since it was addressing the specific objective for instance the objective of employee's perception on the use of ICT in collecting the revenue in Nairobi County. Employees of Nairobi City County government should possess the knowledge of how to transact the operations on how they were using the tools on their daily activities. The use of ICT for revenue collection was expected to have positive performance on the revenue collection (Okiro, 2015). The element of social influence and perceived ease of usefulness drives the users of the ICT for revenue collection to adopt the system and use it as a daily tool.

2.2.2. Technology, Organization and Environment (TOE)

TOE theory was developed by Tornatzsky and Fleischer (1990), to study the adoption of technological innovations. TOE were interrelated, thus the theory was based on three constructs which were technology, organization and Environment. The process by which the firms adopts and implement technology was influence by technology context, organization context and environment context.

According to Scott (2007), on study about e-transformation using the Technology, and Environment framework, in an aviation company on an Electronic Flight Bag (EFB) and Lippert (2006) on research about Technological, Organizational, and Environmental Antecedents to Web Services Adoption both found that the readiness for e-transformation depends on the three context which were Technology, Environment and Organization in terms of financial readiness, organization culture, change process determines organization to adopt the innovation and transformation. The theory of TOE was relevant to the study since it articulates to the research specific objectives of the study for instance the county government ICT policies were referred to the organization and culture in the reason that each organization has it ways of doing business and it has the methodology of set culture which refers to the ICT policies which were being applied to collect the revenue. Financial readiness refers to the specific objective of ICT financial allocation on revenue collection. That depicted for any organization to adopt new technology, it must had the resources that

aids in transforming of old to new level. On the other hand Environment and organization too refers to the individuals who uses the technology as their daily tool for transacting business operations. Environment and organization refers to the specific objective of the study on employee's perception on the use of ICT on revenue collection. Employers were the one who used the new technology for collecting revenue and they were the once who were to give their views on using the new system for revenue collection. Technology refers to the new method of applying ICT tools so as to aid in revenue collection by the Nairobi county city government.

2.2.3. Technology Acceptance Model (TAM)

The theory was formulated by Davis (1985). He advocates that users of the technology can be influenced by three factors; these were perceived ease of use (PEOU), perceived usefulness (PU) and attitude towards using the system. These three constructs affect the overall output of the organization and adoption. According to Park (2009), under the e-learning system adoption; the self-efficacy (PU) in e-learning system was the most important construct among others. The research of TAM under the Learning management system application, reveals that the perceived ease of use and perceived usefulness and attitude with other variables affects the behavioral use of Library Management system (Alharbi & Drew, 2014). The constructs of the theory for instance the PEOU and the PU was expected to have experience in the use of new ICT technology on revenue collection by Nairobi City County government. ICT was expected to be of easy to use with much efficiency and cost reduction as compared to the previous manual system. The specific theory of organization behavior on the use of ICT for revenue collection. The employees of the Nairobi county city government since they were the once using the system had positive or negative responses on the ICT on revenue collection. And thus the application of ICT for revenue collection was be affected by those construct as per the theory suggests.

2.3. Empirical Review

This section presents empirical review on ICT government policies on revenue collection, employee's perception on the use of ICT on revenue collection and ICT financial allocation on revenue collection.

2.3.1. ICT Government Policies on Revenue Collection

Policy framework among the county government was an important tool. Each county should have their own policy guideline on the implementation of ICT system so as to aid in revenue collection. Through the use of information Technology (IT) Automated system for revenue collection, it makes payment convenient and its trouble free process. ICT adoption on revenue collection faces determinants such as resources constrains and policy formulation among others. Thus among these determinants, it was investigated if those factors had influence on the ICT adoption on revenue collection in Nairobi City County (Nairobi City County Fiscal policy, 2013/2014). For instance Nairobi City County had adopted a financial information system called JamboPay system that aids in revenue collection from various sources. Adoption of Management Information System (MIS) by organization was affected by factors such as Technological, Organization factors and people factors (Almamary *et al*., 2014).

2.3.2. Employee's Perception on the Use of ICT on Revenue Collection

According to Mathew (2014), ICT adoption for revenue collection was affected by several Considerations. For instance initial familiarization, staff and client resistance, resources for adoption, remoteness of some areas among other Considerations. As ICT system for revenue collection though it has some Considerations but it has positive outcome on revenue collection. In the case of Nairobi City County the study focused on some determinants and outcome on revenue collection basing on the use of ICT as a tool for collecting revenue. ICT use and related factors such as ICT infrastructure, Revenue collection system, level of competence and the use of ICT platform by customers influence revenue collection performance in an organization (Mburugu & Gekara, 2016). Those who collect the revenue and those submits the revenue both of them colludes and involves themselves in corruption. Lack of training and awareness of the clerks and those who submits the revenue through manual systems; affects the revenue entire performance (Ndunda *et al*., 2015). According to Maisiba & Atambo (2016), under research on effects of electronic tax system on the revenue efficiency in Kenya, found that the use of ICT right from entering new data into the system auditing and producing the reports. The intended purposes were to cut the expenditure, increase funds collections and to make work easier among others on individuals who files the returns. Among other challenges which the

taxpayer's faces when remitting taxes had no idea on ICT skills, no consistent amount of electricity and internet connectivity. Thus the researchers were dimed only in the Uasin Gishu county and narrowed to Kenya Revenue Authority.

2.3.3. ICT Financial Allocation on Revenue Collection

According to Muthoni (2015), who researched on determinants of implementation of ICT projects in Kenya; found that some factors like top management support, ICT policy and resources allocation affects the use of ICT in Kenya though the study didn't touch on positive drivers of ICT adoption in Kenya. Top management support on ICT adoption, and related projects in an organization had a significant factor. That was due to the facts that they had more power and authority to allocate the resource and to encourage the adoption of ICT system. The researcher calls for another research of the same due to the limitations which researcher incurred during the study. Through the long terms of an organization, those who were at the strategic level had more convincing power in allocation of the available resources to any organization project in high priority in relation to their motivation within the organization (Pudjianto & HanyJung, 2010).

2.3.4. Summary of Empirical Literature

The table below shows the summary of the empirical review and the research gaps as far as the study was concern.

Table 2.1 Summary of Empirical Literature

Author	**Year**	**Study**	**Findings**	**Gaps**
Otieno *et al*	2013	Effects of Information systems on revenue collections	Information systems boost revenue collection	The study did not I identify the factors which affects the revenue collection.

Ndunda, ngahu & Wanyoike	2015	Analysis of factors influencing optimal revenue collection	Competency of clerks and policy framework compliance affects revenue collection.	The study didn't mention about the ICT on revenue collection
Okiro,A	2015	Effects of E-payment system on revenue collection	ICT boost revenue collection	The study focused only on the E-payment without considering the Considerations of the use of ICT for revenue collection.
Almanary *et. al*	2014	Factors affecting the adoption of management information system (MIS) in an organization	Adoption of MIS in an organization was affected by many factors.	ICT&MIS was affected by other factors apart from Technological. Organizational and people factors.

Mathew,J	2014	Information communication technology for revenue collection	ICT was affected by factors such as initial formalization, staff and clients resistance	The study only focused on people factors without considering other factors like policy, budget and employees perception on revenue collection
Maisiba & Atumbo	2016	Effects of electronic tax system on the revenue efficiency	Use of ICT right from tax administration through registration affects tax collection	The study focused only on one region and also one sector KRA and without mentioning the Considerations of ICT on revenue collections
Muthoni	2015	Determinants of implementation of ICT projects	ICT projects in Kenya are affected by factors such as top management	The study did not touch on the ICT Considerations or drivers of

			support, Resource allocations and policy frame work	adoption and performance.
Karimi, H	2017	Effect of technology and information systems on revenue collection	ICT plays a key role in revenue collection, for instance increase revenue collections	The study recommends that there were other factors which affects the revenue collection such as the Considerations of ICT on revenue collection.
Githinji, Mwaniki, Kirwa & Mutongwa	2014	Use of ICT on revenue collection in Kenya	Tax revenue collection was down and poor in most of the counties in Kenya	The study did not show the Considerations which affects revenue collections revenue collection in the counties.

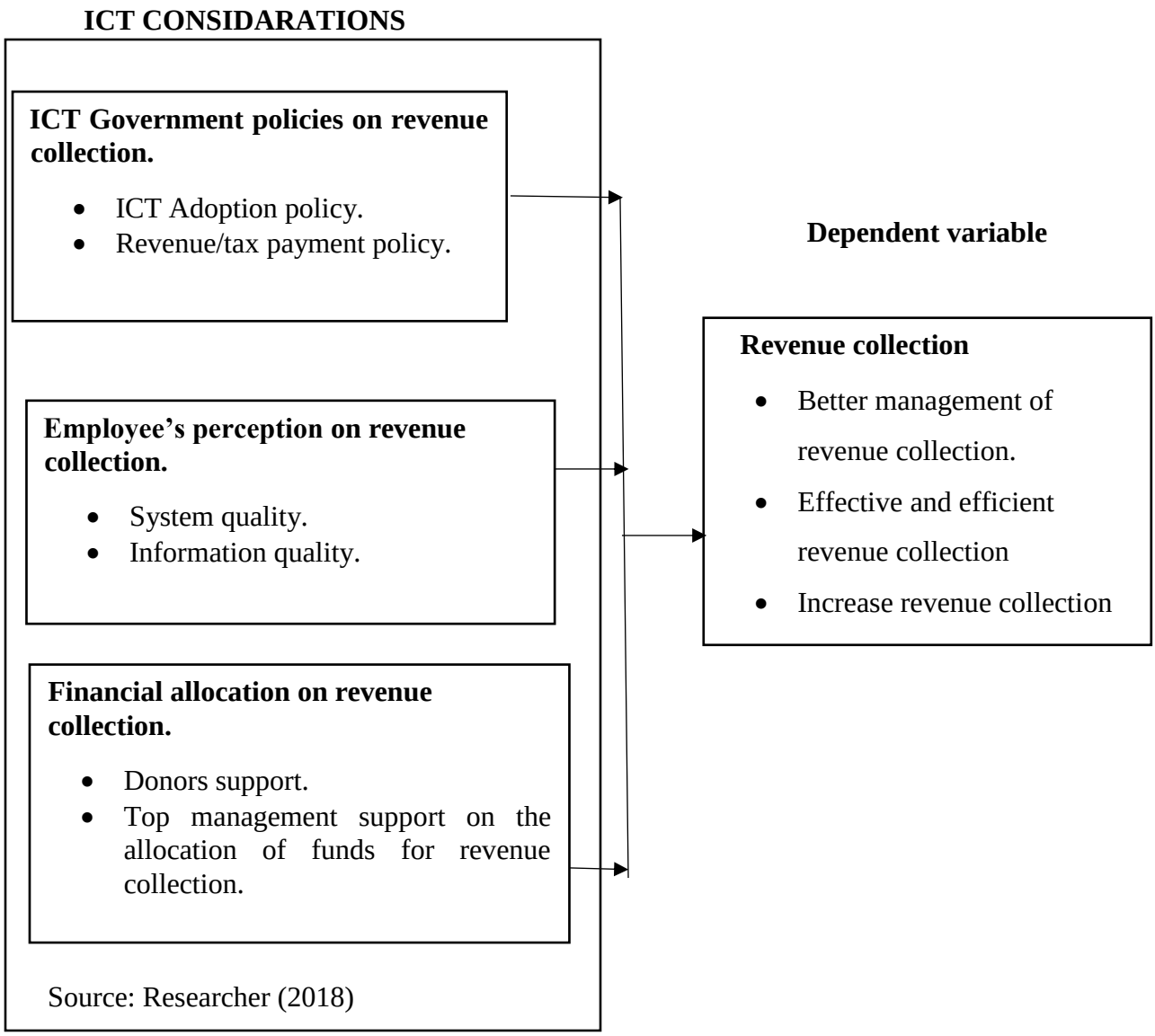
Source: Researcher (2018)

2.4. Conceptual Framework

The following figure is a simple conceptual framework which shows the independent variables and dependent variable.

The three independent variables which were, ICT government policies on revenue collection, Employee's perception on the use of ICT on revenue collection and financial allocation on ICT to aid on revenue collection by Nairobi City County government. ICT Government policies on revenue; refers to the set of rules and regulations which guide the daily collection of the revenues in the county government. County government set those regulations requirement and ensures that they were adhered. As the employees were performing their daily routine tasks; they had the responses of the ICT system since they were the once who were interacting with the system. Financial allocation too towards the aid of ICT tools for collection of revenues, County government sets allocated a budget to the implementation of the system since the system was perceived to be of more benefits out come to the organization for example it was cost effective, easy to use, sealed loopholes of corruption among other benefits. The dependent variable was the revenue collection. Dependent variable was depicted or characterized by indicators or attributes such as increase in revenue collection, sealing of loopholes of revenue leakages on revenue, better accountability and management of revenue and effective and efficient revenue collection.

Figure 2.1: Conceptual Framework.



CHAPTER THREE: METHODOLOGY

3.1. Introduction

This section present the procedures which were used to conduct the study, focusing on research design, Target population, Sampling design, Data collection and Data analysis.

3.2. Research Design

According to Kothari, (2011) a research design is describing, recording, analyzing and interpreting conditions that either exist or existed also it entails the arrangement of conditions for collection, analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. The study adopted a descriptive research design, this is because the design is suitable in describing the state of affairs and facts as they appears**.**

3.3. Target Population

The target population of 115 staffs from 8 departments were sampled which gave a total of 46 individuals for the study. The departments are shown in the table 3.1.

Table 3.1 Nairobi City County Government Sectors

Nairobi City County Government Sectors	
	DEPARTMENTS/SECTORS
1	Administration
2	Education, Youth Affairs, Culture, Children And Social Services Sector
3	Finance And Economic Planning Sector
4	Health Services Sector
5	Information, Communication And E-Government Sector
6	Public Service Management Sector
7	Public Works, Road And Transport Sector
8	Trade, Industrialization, Cooperative

	Development, Tourism And Wildlife Sector.

Source: http://www.nairobi.go.ke/home/about-the-county/assembly accessed on February 2018.

3.4. Sampling Procedure

The research design was based on descriptive research and probabilistic sampling method under simple random sampling method to select the samples to be used for the study; since the method gives the persons equal chances of being included in the samples where descriptive research design was used to describe, record, analyze and interpret the conditions from the collected data. A simple random sampling was used to pick a sample from the target population for the purpose of the study.

Table 3.2 Samples Determination

Nairobi City County Government Sectors			
	DEPARTMENTS/SECTORS	**TARGET POPULATION**	**SAMPLE SIZE (40 PERCENT OF TARGET POPULATION)**
1	Administration	15	6
2	Education, Youth Affairs, Culture, Children And Social Services Sector	15	6
3	Finance And Economic Planning Sector	15	6
4	Health Services Sector	15	6

5	Information, Communication And E-Government Sector	15	6
6	Public Service Management Sector	15	6
7	Public Works, Road And Transport Sector	15	6
8	Trade, Industrialization, Cooperative Development, Tourism And Wildlife Sector.	10	4
	Total	**115**	**46**

Source: Researcher (2018)

3.5. Data Collection Instruments

Semi-structured questionnaires were used to collect the data. Questions in the questionnaire comprised of closed and open ended. The questionnaires were issued through drop and pick method. According to Sekeran (2009), a questionnaire is a pre- formulated written set of questions to which respondents record their answers, usually within closely defined alternatives. The questionnaires comprised of Likert Scale of 0-4 (strongly agree at 4 no idea at 0). Likert Scale was primarily used in questionnaires to measure the participant's degree of agreement with a statement or set of statements. The method was most widely accepted for survey collection and therefore, easily understood. That scale too was easily quantifiable and be subjected to computation of mathematical analysis. That makes the question as well as response easier according to Garson (2013). Questionnaire gives reliable outcome since the data can be numerically analyzed and respondents were given a freedom of expressing themselves and to give their opinions.

3.5.1 Piloting

Piloting refers to testing of the questionnaires by presenting them in the field that was to enhance validity and reliability of the instruments. A pilot study was conducted and response from selected staffs in the pilot study were collected. The comments from the respondents who participated in the pilot study and modifications in the wording of questions were incorporated in the final instrument revisions. Appearance of the survey instrument and general flow of the questionnaires were reviewed accordingly. Finally, the questionnaires were suitably coded, and a covering letter explaining the purpose of the study and guaranteeing confidentiality were given to respondents sampled for the study.

3.5.2 Reliability of the Research Instruments

According to Maxwell (2012), reliability refers the level to which the research design applied for example questionnaires, observations, tests or measurements procedures, gives same results when trials were done repeatedly. To avoid participant error, a more neutral time was selected when the employees were neither on a high, nor on a low. To avoid participant bias, elaborate steps were taken to guarantee respondents of their anonymity when filling the questionnaires. The study applied internal consistency technique to assess reliability of the instrument. Internal consistency involves administering a single test to a sample of subjects and correlating a score from one item with scores from other items (Saunders *et al.*, 2008). Before the data was collected, employees from the Kiambu County working in similar departments were issued. Results from the pilot test are summarized in table 3.3.

Table 3.3 Reliability Analysis

	Scale Mean if Item Deleted	Cronbach's Alpha if Item Deleted
ICT government Policies	3.1802	0.747
Employees perception	3.2939	0.705
Financial allocation	3.8455	0.870
Cronbach's Alpha (Overall)		0.774

Source: Research Data (2018)

Overall Cronbach's Alpha coefficient was 0.774, and therefore met the minimum threshold of 0.70. This therefore meant that the items of the questionnaire were highly consistent. If any of the items was to be removed, this would not have an effect on the stability of other variables.

3.5.3 Validity of Research Instruments

The data collection through the use of questionnaire was expected to provide valid output as per the study problem since the questions in the questionnaire contained both open ended questions and closed ended questions with varied Likert scales which were customized to meet the need of each variable which was measured. The researcher too did not manipulated any variable (Creswell, 2013). To enhance the validity of the instrument, the researcher got insights constantly from the supervisor which helped to clarify and improve the items of the questionnaire.

3.6 Data Collection Procedure

The researcher seek Permission from the National Commission for Science, Technology and Innovation (NACOSTI) approval and obtained consent letter from the Graduate school, Kenyatta University and also a letter of approval from Human Resource Department, Nairobi City County Government was issued to allow for the data collection from the Nairobi City County government departments.

3.7 Data Analysis and Presentation

The Questions in the Questionnaire were given a new codes that identified each question as a unique from each other and input in SPSS interface. The study used descriptive statistical techniques such as percentages, mean and standard deviation on analyzing data. Findings were presented in form of tables for easy interpretations and understanding about the relationship between ICT Considerations and revenue collection in Nairobi City County government.

SPSS was used since it has benefits such as effective data management, better output organization and wide range of options over excel or spread sheet application. The descriptive statistics information such as percentages, mean and standard deviation were obtained from the software interpretation. The researcher also applied Pearson's correlation analysis to establish the relationship between the independent variable ICT to the dependent variable on revenue collection.

3.8 Ethical Considerations

Ethical considerations refers to the principles and standards that determines accepted conduct (Vieira, 2013). The researcher followed the rightful procedures of the data collection and also both the approval letters from the Kenyatta University and NACOSTI and approval letter form Nairobi county government Human resource office were the documents of evidence to prove the data which was collected was for the academic purposes only. The study ensured that the participants' secrecy was maintained and information which was gathered were meant for academic purposes only. The principle of anonymity was applied in order to guarantee privacy to respondents. The study adhered to all the ethical standards set and no respondent was subjected into participating in the research without his/her will.

CHAPTER FOUR: RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter outlines the findings, analysis and presentation of the results of a study carried out about information communication technology Considerations and revenue collection in Nairobi City County government. Findings were presented on tables and discussed so as to give clear clarifications of the data analyzed. The information contained on this chapter has both the demographic data and the variables analysis of the study.

4.2 Sample Characteristics

4.2.1 Response Rate

The research targeted the employees of Nairobi City County government and sought to find out the ICT Considerations and revenue collection. Information concerning the individual gender, age, levels of education, Departments, the ICT policies, Employees perception on the use of ICT on revenue collection and financial support of ICT equipment for revenue collection among others was collected through administration of questionnaires. The targeted population were 115 staffs of Nairobi City County government where by 40 percent were selected which gave a size sample of 46 staff members from various departments. Data was gathered from the population sample and analyzed in order to derive the necessary information. Out of the 46 sample population with a percentage of 100 percent, 35 responded giving a response rate of 76.1 percent while 23.9 percent.

The acquired results were acceptable as supported by (Mugenda and Mugenda, 2005) who pointed out that 50 percent response rate was satisfactory, 60 percent was good enough, while 70 percent and above was considered the best. The high response effort was made possible because of the efforts of the researcher to remind the respondents to fill in the questionnaires. Failure to respond to the questionnaires by 23.9 percent of the respondents' maybe attributed to their absence from their stations when the study was being conducted.

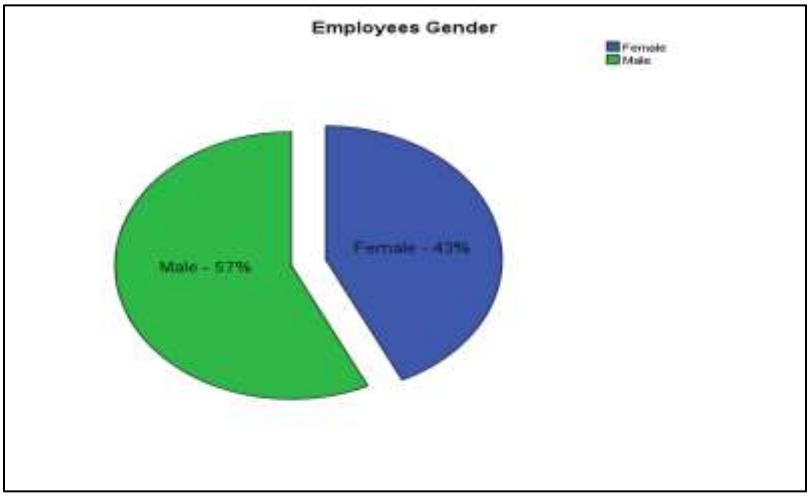
4.2.2 Employees' Gender

The study sought to determine gender composition of the employees of the county government in

Nairobi. The findings established that the majority 43 percent of the employees were female while 57 percent of the employees were male. That implies the staff who were employed to collect revenue in Nairobi County was male dominated which was in line with third gender rule of the Kenyan Constitution 2010.

That was a clear indication that the study received a mixed view on the responses for making unbiased inferences as shown in the pie-chart below.

Figure 4.1 Employees Gender



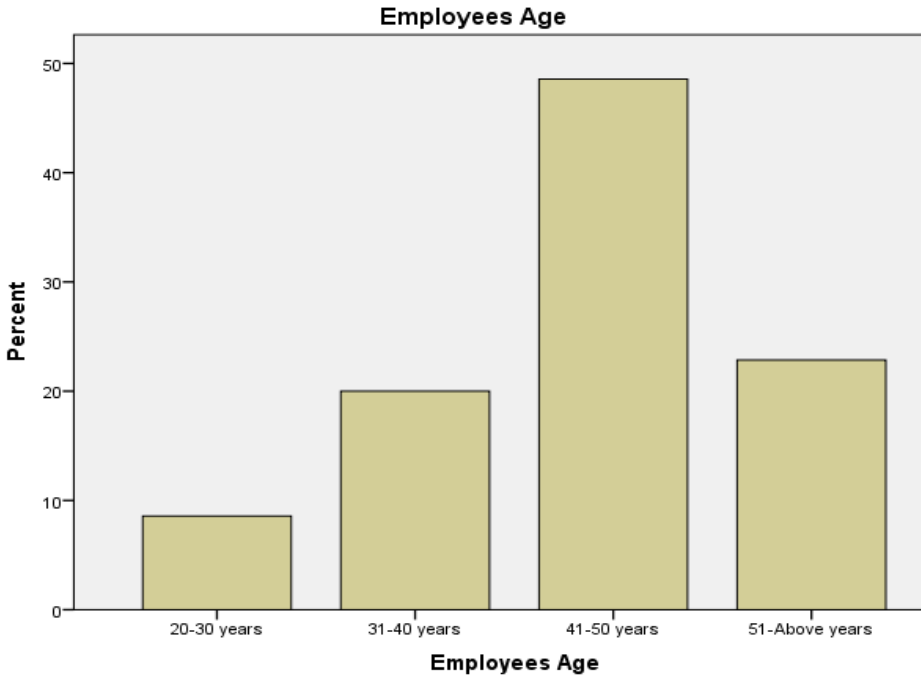
Source: Research Data (2018)

4.2.3 Age

The researcher wanted to know the trend in age in the office. That was supposed to enable the study to get varied responses from different age groups in a bid to understand any link that exists between age and ICT on revenue collection perception and experience among employees in the Nairobi City County government. It was found out that 8.6 percent of the respondents were between 20 and 30 years, 20 percent between 31 and 40 years, 48.6 percent were between 41 and 50 years and the remaining 22.9 percent were made up of those with above 50 years. From the findings of the study, it can be said that most of Nairobi City County employees were age between 41 and 50 years. Since every group was included, the county governments were in line with the new constitution of 2010 which

allows every representatives of all age group to secure a job in a public office. The majority of these respondents had wide knowledge on how the revenue has been collected in the county government from the previous county councils as shown in figure 4.2.

Figure 4.2 Employees Age

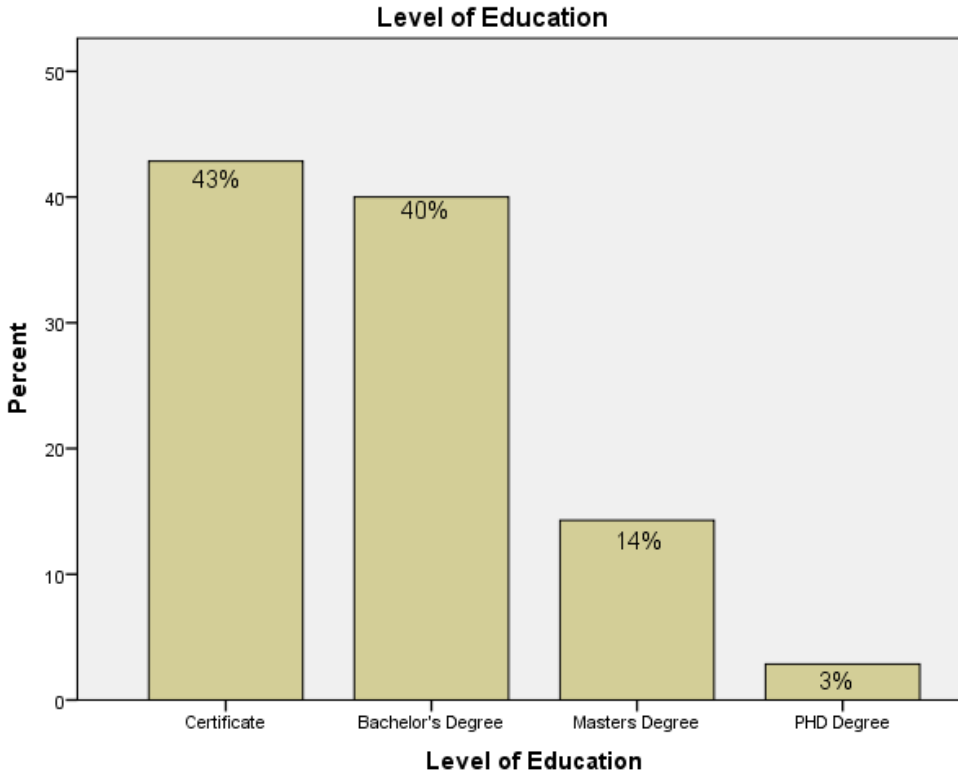


Source: Research Data (2018)

4.2.4 Education Level

Among the respondents who were interviewed, the researcher wanted to know their education levels to establish the relationships between education levels and the use of ICT in the office for revenue collection. As depicted by research findings; 43 percent had attained certificate, 40 percent had Bachelor's degree, 14 percent had Master's degree and 3 percent had PhD degree. From the findings of the study, it can be said that majority employees in Nairobi City County government were Certificate holders as a highest level of education. At the time before the study, employees were not required to meet highest level of education. However, the change of constitution promulgation in 2010 required people seeking jobs positions to meet certain academic qualification as shown in the figure 4.3.

Figure 4.3 Level of Education

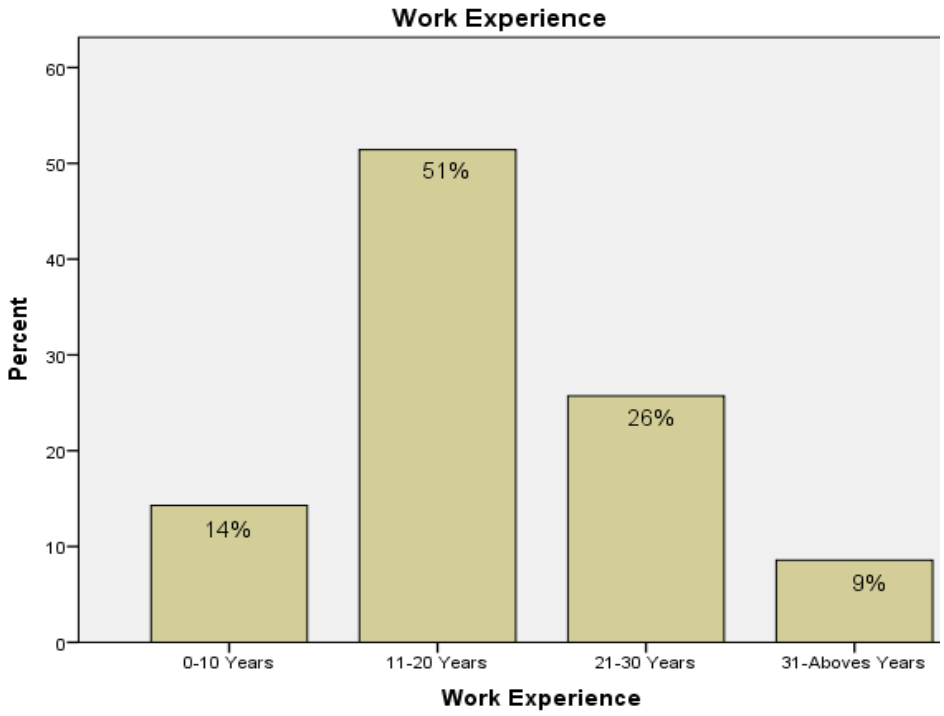


Source: Research Data (2018)

4.2.5 Work Experience

The study established the experience of employees based on the number of years they had worked in order to make conclusions on working experience and ICT use on revenue collection among the staff at Nairobi City County government, the researcher found out that 14 percent of the employees had worked for 10 or less years, 51 percent had worked for 11 - 20 years, 26 percent had worked for 21-30 years and 9 percent had worked for more than 31 years. Therefore, from the findings of the study, most of the workers had between 11-20 years working experience as shown in figure 4.4.

Figure 4.4 Work Experience



Source: Research Data (2018)

4.2.6 Employees Departments

The researcher interviewed various staffs from 8 departments (sectors) so as to obtain varied mixed views from respondents for the purposes of making unbiased decision inference and also for clear and wider views on the use of ICT in Nairobi City County government on revenue collections. Therefore, from the findings the following were the responses from the respondents, 34.3 percent were from social services (Health sector, Public service management and public works roads and transport), 14.3 percent were from ICT sector, 17.1 percent were from finance sector, 11.4 percent were from education sector, 8.6 percent were from Trade sector and 14.3 percent were from Administration sector. From the findings, there was minimal response rate from Trade sector while those who responded very well were from Social Service department. The study concurred with the findings of (Ongaki, 2012) which supported that various employees in an organization from different departments provided unbiased information and as a result of the study data was collected from various departments in the county as shown in table 4.1.

Table 4.1 Employees Department

	Frequency	Percent
Social services Sector(Health service, Public service management, Public works Roads and transport)	12	34.3
ICT Sector	5	14.3
Finance Sector	6	17.1
Education Sector	4	11.4
Trade	3	8.6
Administration	5	14.3
Total	35	100.0

Source: Research Data (2018)

4.3. ICT Government Policies on Revenue Collection

Various policies awareness from varied employees from various departments from Nairobi City County government were interviewed on ICT government policies on revenue collection. The researcher established some policies justifications to employees and how it affects revenue collection. From the finding the results shown below as from each supportive questions on ICT Government policies on revenue collection.

4.3.1 Existence ICT Policies on Revenue Collection

The findings about ICT policies existence on revenue collections among the respondents shows that 80 percent of those who were interviewed accepted that there was ICT policies on revenue collection in the Nairobi City County Government. While 20 percent of the interviewed staffs shows that there was no existence of the ICT policies on revenue in the

county. The mean was found to be (mean =0.20) and the standard deviation was 0.406 as shown in table 4.24. Therefore the majority of the employees accepted that there was existence of ICT policies on revenue collection in the county. The management of the county should inform all employees about the ICT policies on revenue collections so that they will work and walk together toward a common objectives of the County and to share the same notes as well as working on the same platform for better streamlining of the core activities as shown in table 4.2.

Table 4.2 Existence of Revenue policies

	Frequency	Percent
Yes	28	80.0
No	7	20.0
Total	35	100.0

Source: Research Data (2018)

4.3.2 ICT Policies on Revenue Collections Improvement

Various staff were interviewed from varied perspectives about the ICT policies where it improves revenues collections in Nairobi City County Government, these were the responses, had no idea, agree and strongly agree. The mean was found to be (mean =1.77) and the standard deviation was 1.060 as shown in table 4.12. Therefore from the findings the majority of the staff accepts that ICT policies on revenue improves collections of revenue. The results of the study was in line with the study of (Maisiba & Atambo, 2016) who found that the right procedures of revenue collections affects the production of the revenue in an organization either positively or negatively as shown in table 4.3.

Table 4.3 ICT Policies on Revenue Collections Improvement

	Frequency	Percent
No Idea	8	26.7
Agree	14	46.7
Strongly Agree	8	26.7
Total	30	100.0

Source: Research Data (2018)

4.3.3. ICT Revenue Policy Awareness among the Employees

Among the staff interviewed, about the awareness of ICT policies on revenue collection in Nairobi City County Government; 22.9 percent had no idea of those policies, 28.6 percent were often being informed, 8.6 percent accepted that ICT policy awareness were made available to them or were being updated, 34.3 percent and 5.7 percent accepted that ICT policies on revenue collections were being informed in a most frequent rates. The mean was found to be (mean =1.71) and the standard deviation was 1.319 as shown in table 4.12. The results of the study was in line with the study of (Maisiba & Atambo, 2016) who found that those who were aware of the right procedures of revenue collections affected the production of the revenue in an organization either positively or negatively. Therefore the findings shown that majority of the staff were aware of the ICT Revenue policy existence and thus there was a positive significant in revenue collection in Nairobi City County government as shown in table 4.4.

Table 4.4 ICT Policies Awareness

	Frequency	Percent
None	8	22.9
Often	10	28.6
Most Often	3	8.6
Frequently	12	34.3
Most Frequently	2	5.7
Total	35	100.0

Source: Research Data (2018)

4.3.4 ICT Policies and Revenue Collections

Among the staffs of Nairobi City County Government who were interviewed about the adhering of the ICT policies during revenue collections, from the study analysis, it was noted that 31.4 percent has no idea, 8.6 percent strongly disagree, and 42.9 percent agree and 17.1 percent strongly agree. Therefore from the findings, it can be noted that majority of the staff agree that ICT polices on revenue collections were being followed during revenue collections. The mean was found to be (mean =1.46) and the standard deviation was 1.120 as shown in table 4.12. The results of the study contradicts with the findings of (Odago & Dr.Mwajuma, 2013) and (Ndunda *et al.,* 2015) who found that more training should be done on those who were collecting revenues since they were colluding with those who were submitting revenue. That implies majority of staffs of Nairobi City County government were adhering of the set policies on revenue collections as shown in table 4.5.

Table 4.5 ICT Policies and Revenue Collections

	Frequency	Percent
No Idea	11	31.4
Strongly Disagree	3	8.6
Agree	15	42.9
Strongly Agree	6	17.1
Total	35	100.0

Source: Research Data (2018)

4.3.5 Ease of ICT Policies on Revenue Collections

Varied employees of Nairobi City County Government were interviewed about ICT policies on revenue ease revenue collections, the following were the output results, 17.1 percent has no idea, 5.7 percent, 45.7 percent agree and 31.4 percent strongly agree. It was therefore noted that majority of the employees accepted that the ICT policies on revenue collections ease revenue collections in Nairobi City County Government. The mean was found to be (mean =1.91) and the standard deviation was 1.040 as shown in table 4.12. The study agree with the study of (Maisiba & Atambo, 2016) who found that through the use of ICT on tax pay process reduces costs and make the entire process to be much easier during tax pay collections as shown in table 4.6.

Table 4.6 Ease of ICT Policies on Revenue Collections

	Frequency	Percent
No Idea	6	17.1
Strongly Disagree	2	5.7
Agree	16	45.7
Strongly Agree	11	31.4
Total	35	100.0

Source: Research Data (2018)

4.3.6 ICT Policies on Revenue Collection Productivity

The findings from the staff of Nairobi City County Government who were interviewed about ICT policies on revenue collection productivity shows that, 20 percent has no idea, 8.6 percent strongly disagree, 45.7 percent agree and 25.7 percent strongly agree. From the results from analysis it shows that majority of the respondents agree that ICT policies on revenue collections improves productivity. The mean was found to be (mean =1.77) and the standard deviation was 1.060 as shown in table 4.12 The results of the study concurred with the findings of (Kirimi *et al*, 2017) , (Githinji *et al*., 2014) and (Maisiba & Atambo, 2016) who found out that the used of ICT on revenue collection increased the quantity of revenue collection since the ICT system sealed the loop holes of coruptions as shown in table 4.7.

Table 4.7 ICT Policies on Revenue Collection Productivity

	Frequency	Percent
No Idea	7	20.0
Strongly Disagree	3	8.6
Agree	16	45.7
Strongly Agree	9	25.7
Total	35	100.0

Source: Research Data (2018)

4.3.7 ICT Policies on Revenue Collection and Timely Report

The researcher wanted to know the impact of ICT policies on revenue collection and the timely reports being produced by the current ICT system in place. The findings shows that 17.1 percent has no idea, 2.9 percent disagree, 54.3 percent agree and 25.7 percent strongly agree. It was therefore noted that majority of the employees agree that ICT policies on revenue collection helps much in providing timely reports for decision making. The mean was found to be (mean = 2.71) and the standard deviation was 1.341 as shown in table 4.12. The results of the study concurred with the findings of (Almanary *et al.,* 2014) who found that the use of information systems in an organization was of significants because of the effectiveness and efficiecy of the system on managing the tasks of the organization as shown in table 4.8.

Table 4.8 ICT Policies on Revenue Collection and Timely Report

	Frequency	Percent
No Idea	6	17.1
Disagree	1	2.9
Agree	19	54.3
Strongly Agree	9	25.7
Total	35	100.0

Source: Research Data (2018)

4.3.8 ICT Policies on Revenue Collection and Corruption Minimization

The findings from those who were interviewed among Nairobi City County Government staffs about ICT policies on revenue collection and corruption minimization shows that 14.3 percent has no idea, 2.9 percent strongly disagree, 22.9 percent disagree, 45.7 percent agree and 14.3 percent strongly agree. The mean was found to be (mean =2.43) and the standard deviation was 1.341 as shown in table 4.12. The results depicted that majority of the staff from Nairobi City County Government agree that ICT policies on revenue collections minimizes corruptions during revenue collection and processing. Therefore, the majority of Nairobi City County Government staffs agree that ICT policies on revenue collection minimizes corruption. The results of the study concurred with the findings of (Otieno *et al.,* 2013) and (Maisiba & Atambo, 2015) who found that the use of ICT on revenue collections was in line with the objectivity of revenue collecgtion since the use of ICT on revenue collection sealed and minimized the loop holes of corruptions on revenue collections as shown in table 4.9.

Table 4.9 ICT Policies on Revenue Collection and Corruption Minimization

	Frequency	Percent
No Idea	5	14.3
Strongly Disagree	1	2.9
Disagree	8	22.9
Agree	16	45.7
Strongly Agree	5	14.3
Total	35	100.0

Source: Research Data (2018)

4.3.9 ICT Policies on Revenue Collection and Revenue Maximization

Among those who were interviewed, the results from analysis shows that 11.4 percent has no idea, 2.9 percent strongly disagree, 17.1 percent disagree, 48.6 percent agree and 20 percent strongly agree. The mean was found to be (mean =2.43) and the standard deviation was 1.190 as shown in table 4.12 Therefore it was noted that majority of the respondents in Nairobi City County Government agree that ICT policies on revenue collection maximizes revenue collection in the county. The results of the study concurred with the findings of (Okiro, 2015) who found that the use of ICT on revenue collections was in line with the objectivity of revenue collecgtion since the use of ICT for revenue collection increased the quantity of revenue collection since the ICT system seals the loop holes of coruptions as shown in table 4.10.

Table 4.10 ICT Policies on Revenue Collection and Revenue Maximization

	Frequency	Percent
No Idea	4	11.4
Strongly Disagree	1	2.9
Disagree	6	17.1
Agree	17	48.6
Strongly Agree	7	20.0
Total	35	100.0

Source: Research Data (2018)

4.3.10 ICT Policies on Revenue Collection and Accomplishment of More Work

The study findings shows that among those who were interviewed about ICT policies on revenue collection and accomplishment of more work, 11.4 percent had no idea, 2.9 percent strongly disagree, 11.4 percent disagree, 54.3 percent agree and 20 percent strongly agree. It was noted that majority of the staff agree that ICT policies on revenue collection and accomplishment on much work in Nairobi City County Government. The mean was found to be (mean =2.69) and the standard deviation was 1.183 as shown in table 4.12.The results of the study concurred with the findings of (Almanary *et. al* 2014) who found that the use of information systems in an organization was of significants because of the effectiveness and efficiecy of the system on managing the tasks of the organization. It meets the objectivity of revenue collecgtion since the use of ICT for revenue collection increased effectiveness and efficiency on the revenue collection as shown in table 4.11.

Table 4.11 ICT Policies on Revenue Collection and Accomplishment of More Work

	Frequency	Percent
No Idea	4	11.4
Strongly Disagree	1	2.9
Disagree	4	11.4
Agree	19	54.3
Strongly Agree	7	20.0
Total	35	100.0

Source: Research Data (2018)

4.3.11 Mean and Standard Deviation Aggregates of ICT Policies and revenue collection

The table 4.12 shows the distribution of the mean and standard deviation on how ICT policies affect revenue collection. Aggregate mean and aggregate standard deviation were calculated and the results were interpreted. The aggregate mean indicates that ICT policies on revenue collection in Nairobi city County Government affect revenue collection to a moderate extent aggregate mean (μ= 19.19). The aggregate standard deviation was (Aggregate Standard deviation= 11.737). The findings of the study are consistent with (Okiro, 2015) and (Otieno *et al., 2013*) whose study found out that ICT policies on revenue collection boosted the revenue collection and sealed the loop holes of corruptions.

Table 4.12 Descriptive Statistics Mean and Standard Deviation on ICT policies

Components	N	Mean	Std. Deviation
ICT Revenue policies	35	.20	.406
ICT policies improves Revenue collection	35	1.77	1.060
ICT Policies Awareness	35	1.71	1.319
ICT Policies and revenue collection	35	1.46	1.120
ICT Polies Ease Revenue Collection	35	1.91	1.040
ICT policies Improves Revenue Productivity	35	1.77	1.060
ICT Policies on Revenue Collection Produce Timely Reports	35	2.71	1.341

ICT Policies on Revenue Collection Minimize to corruption	35	2.43	1.220
ICT policies on revenue collection Maximizes Revenue?	35	2.63	1.190
ICT Policies on revenue collection accomplish much work	35	2.69	1.183
Aggregate mean & Standard deviation		99.19	11.737

Source: Research Data (2018)

4.4. Employees Perception on the Use of ICT on Revenue Collection

4.4.1 Training on the Use of the Information System for Revenue Collection

The researcher wanted to know if the staffs from various departments in Nairobi City County Government were trained on the use of the system which they were using for revenue collections and processing of the reports. The findings shows that 37.1 percent had been trained while 60 percent had not been trained. Thus it was noted that majority of the staffs were not trained about the use of the current system for revenue collection. The mean was found to be (mean =0.62) and the standard deviation was 0.493 as shown in table 4.20. The results of the study concurred with the findings of (Ndunda *et al.,* 2015) and (Odago & Dr.Mwajuma, 2013) who found that more training should be done to those who were collecting revenues since they were colluding with those who were submitting revenue.

That implies majority of staffs of Nairobi City County government were not trained on the use of the ICT system for revenue collection as shown in table 4.13.

Table 4.13 Training on the Use of the Information System for Revenue Collection

		Frequency	Percent
	Yes	13	37.1
	No	21	60.0
	Total	34	97.1
Missing	**System**	1	2.9
Total		35	100.0

Source: Research Data (2018)

4.4.2 ICT System Preferred For Revenue Collection

The finding about the kind of the system which was liked by those who were interviewed between the Current JamboPay system and Office Automation system among Nairobi City County Government staffs, shows that those who preferred JamboPay system were 45.7 percent while those who preferred Office Automation system were 51.4 percent. The mean was found to be (mean =0.53) and the standard deviation was 0.507 as shown in table 4.20 Therefore it was noted that majority of the users of the system preferred office automation than the JamboPay system which was in used as shown in table 4.14.

Table 4.14 ICT System Preferred for Revenue Collection

		Frequency	Percent
	JamboPay system	16	45.7
	Office Automated System	18	51.4
	Total	34	97.1
Missing	**System**	1	2.9
Total		35	100.0

Source: Research Data (2018)

4.5. ICT System on Revenue Collection and Quality of the System

Various parameters about the ICT system on revenue collection in relation to quality ICT system were formulated in the study and interviewed among the staff of Nairobi City County Government. Those parameters of quality of the ICT system includes:-

4.5.1 Ease of Using the System

The findings about the employees of Nairobi City County Government on the perception on ease of using the system shows that 20 percent has no idea, 5.7 percent strongly agree, 5.7 percent disagree, 60 percent agree and 8.6 percent strongly agree. Therefore the majority of the staff in Nairobi City County Government agree that the use of the ICT on revenue collection was easy to use. The mean was found to be (mean =2.31) and the standard deviation was 1.323 as shown in table 4.20. The results of the study on ease of the ICT system on revenue collection concurred with the findings of (Almanary *et al.,* 2014) who found that the use of information systems in an organization should possed qualities which meets users needs so as to meet certain objective as shown in table 4.15.

Table 4.15 Ease of Using the System

	Frequency	Percent
No Idea	7	20.0
Strongly Disagree	2	5.7
Disagree	2	5.7
Agree	21	60.0
Strongly Agree	3	8.6
Total	35	100.0

Source: Research Data (2018)

4.5.2 Data security

Among the staff of Nairobi City County Government who were interview about ICT system on revenue collection, the findings shows that 28.8 percent has no idea, 8.6 percent strongly disagree, 17.1 percent disagree, 40 percent agree and 5.7 percent strongly agree. The mean was found to be (mean =1.83) and the standard deviation was 1.375 as shown in table 4.20 It was therefore, concluded that majority of staff agree that the ICT on revenue collection in secures data as shown in table 4.16.

Table 4.16 Data Security

	Frequency	Percent
No Idea	10	28.6
Strongly Disagree	3	8.6
Disagree	6	17.1
Agree	14	40.0
Strongly Agree	2	5.7
Total	35	100.0

Source: Research Data (2018)

4.6. ICT System on Revenue Collection and Quality of Information

Various parameters about the ICT system on revenue collection in relation to quality of information produced by the system were formulated by the researcher and interviewed among the staff of Nairobi City County Government. The results of the study on quality of the information from the system on revenue collection concurred with the findings of (Almanary *et al.*, 2014) who found that the use of information systems in an organization should had qualities which meets users satisfaction. Those parameters of quality of information includes:-

4.6.1 Completeness of Information

The findings from those employees of Nairobi City County Government who were interviewed shows that 17.1 percent has no idea, 2.9 percent strongly disagree, 20 percent disagree, 48.8 percent agree and 11.4 percent strongly agree. From the results it shows was noted that majority of the employees agree that the ICT system on revenue collection produces complete information. The mean was found to be (mean =2.34) and the standard deviation was 1.259 as shown in table 4.20 The results of the study on completeness of information on ICT system on revenue collection concurred with the findings of (Almanary

et al., 2014) who found that the use of information systems in an organization should had qualities which meets users needs as shown in table 4.17.

Table 4.17 Completeness of Information

	Frequency	Percent
No Idea	6	17.1
Strongly Disagree	1	2.9
Disagree	7	20.0
Agree	17	48.6
Strongly Agree	4	11.4
Total	35	100.0

Source: Research Data (2018)

4.6.2 Accuracy of Information

The findings from those who were interviewed among the staffs of Nairobi City County Government about ICT system on revenue collection and accuracy of information shows that 20 percent has no idea, 2.9 percent strongly disagree agree, 20 percent disagree, 51.4 percent agree and 5.7 percent strongly agree. From that data analysis it was clear that majority of the staff agree that ICT system produces accurate information. The mean was found to be (mean =2.20) and the standard deviation was 1.256 as shown in table 4.20 The results of the study on accuracy of the ICT system on revenue collection concurred with the findings of (Almanary *et al.*, 2014) who found that the use of information systems in an organization should had qualities which meets users needs as shown in table 4.18.

Table 4.18 Accuracy of Information

	Frequency	Percent
No Idea	7	20.0
Strongly Disagree	1	2.9
Disagree	7	20.0
Agree	18	51.4
Strongly Agree	2	5.7
Total	35	100.0

Source: Research Data (2018)

4.6.3. Security of Information

The parameter on ICT system on revenue collection in relation to data security. Among the staffs of Nairobi City County Government who were interviewed, the findings shows that 28.6 percent has no idea, 5.7 percent strongly disagree, 22.9 percent disagree, 37.1 percent agree and 5.7 percent strongly agree. Therefore, it was noted that majority of the staff agree that the system secures information and it has authentications. The results of the study on security of the ICT system on revenue collection concurred with the findings of (Almanary *et al.*, 2014) who found that the use of information systems in an organization should had qualities which meets users needs so as to meet certain objectives as shown in table 4.19.

Table 4.19 Security of Information

	Frequency	Percent
No Idea	10	28.6
Strongly Disagree	2	5.7
Disagree	8	22.9
Agree	13	37.1
Strongly Agree	2	5.7
Total	35	100.0

Source: Research Data (2018)

4.6.4 Aggregate mean and standard deviation of Employees perceptions

Data analysis on the mean and deviations on the employee's perceptions on the use of ICT on revenue collections.

The table 4.20 shows the distribution of the mean and standard deviation about employee's perception on the use of ICT for revenue collection. Aggregate mean and aggregate standard deviation were calculated and the results were interpreted. The aggregate mean indicates that employees perception on the use of ICT for revenue collection in Nairobi city County Government has (Aggregate Mean= 9.86). The aggregate standard deviation was (Aggregate Standard deviation= 6.213). The findings of the study are consistent with (Almanary *et al.,* 2014) in that quality of the system affects the productivity of the employees.

Table 4.20 Mean and Standard deviation of Employees Perceptions

	N	Mean	Std. Deviation
Training on the use of the system	34	.62	.493
ICT System preferred for Revenue collection	34	.53	.507
Do the ICT system on revenue collection is easy to use	35	2.31	1.323
Do the ICT system on revenue collection is secured?	35	1.86	1.375
Do the ICT system on revenue collection produces complete information?	35	2.34	1.259
Do the ICT system on revenue collection produces accurate information?	35	2.20	1.256
Aggregate Mean & Standard deviation		9.860	6.213

Source: Research Data (2018)

4.7 Financial Allocation on Revenue Collection

Various parameters about the ICT system on revenue collection in relation to financial allocation on revenue collection to the system were formulated by the researcher and interviewed among the staff of Nairobi City County Government. Those parameters of financial allocation on revenue collection includes but not limited to:-

4.7.1. Funds Allocation on ICT Resources for Revenue Collection

The findings from various employees who were interviewed among the Nairobi City County Government staff on financial allocation on revenue collection were depicted below. The results shows that 48.6 percent has no idea, 28.6 percent strongly disagree and 22.9 percent agree. From the results it was noted that majority of employees has no idea about the budget of ICT resources and revenue collection. The mean was found to be (mean =0.74) and the standard deviation was 0.817 as shown in table 4.24. The results of the study concurred with the findings of (Pudjianto & HanyJung, 2010) and (Muthoni, 2015), who found that top managenment influences the allocation of resources among the projects in an organization and also the allocated fund to the projects were not enough. The study too found that top management had an influence on allocation of funds on the collections of revenues as shown in table 4.21.

Table 4.21 Funds Allocation on ICT Resources for Revenue Collection

	Frequency	Percent
No Idea	17	48.6
Strongly Disagree	10	28.6
Agree	8	22.9
Total	35	100.0

Source: Research Data (2018)

4.7.2 Sources of Funds for Financing Revenue Collection

The findings from those who were interviewed among the staffs of Nairobi City County Government, about sources of funds for financing revenue collection, the results shows that 8.6 percent was from donors, 51.4 percent national government, 34.3 percent revenue collected and 2.9 percent other investments. The mean was found to be (mean =1.32) and the standard deviation was 0.684 as shown in table 4.24. From the analysis of the data shown that majority of the staff agree the finance for revenue collections was from national government. That was supported by the constitution of Kenya; Article 209 which implies

that County governments had constitutionally powers to impose taxes and charges on various sections on the economy in within their areas of jurisdiction and requires efficient and reliable sources of revenue for them to run their operations effectively (E. A. Tax, 2014) as shown in table 4.22.

Table 4.22 Sources of Funds for Financing Revenue Collection

	Frequency	Percent
Donors	3	8.6
National Government	18	51.4
Revenue collection	12	34.3
Other (Business Investments)	1	2.9
Total	34	97.1
Total missing	1	2.9
Total	35	100.0

Source: Research Data (2018)

4.7.3 Top Management Support on Allocation of Funds for ICT Revenue Collection

The findings from those who were interviewed among Nairobi City County Government staffs about top management support on allocation of funds for ICT components for revenue collections, the results from data analysis shows that 37.1 percent has no idea, 2.9 percent strongly disagree, 11.4 percent disagree, 40 percent agree and 8.6 percent strongly agree. It was therefore noted that majority of those who were interviewed agreed about top management support on allocation of funds for ICT revenue collection. The mean was found to be (mean =1.80) and the standard deviation was 1.511 as shown in table 4.24. The

results of the study concurred with the findings of (Lundu & Shale, 2015) and (Pudjianto & HanyJung, 2010) who found that top managenment influenced the allocation of resources among the projects in an organization. The study too found that top management had an influence on allocation of funds for the collections of revenues as shown in table 4.23.

Table 4.23 Top Management Support on Allocation of Funds for ICT Revenue Collection

	Frequency	Percent
No Idea	13	37.1
Strongly Disagree	1	2.9
Disagree	4	11.4
Agree	14	40.0
Strongly Agree	3	8.6
Total	35	100.0

Source: Research Data (2018)

4.7.4 Aggregate Mean and Standard Deviations Analysis of Funds Allocation

The table 4.24 shows the distribution of the mean and standard deviation on how funds allocated on revenue collection affect revenue collection. Aggregate mean and aggregate standard deviation were calculated and the results were interpreted. The aggregate mean indicates that financial allocation on revenue collection in Nairobi city County Government affect revenue collection to a moderate extent (Aggregate Mean= 3.86). The aggregate standard deviation was (Aggregate Standard deviation= 3.01). The findings of the study are consistent with (Lundu & Shale, 2015) and (Pudjianto & HanyJung, 2010) in that funds alloction to any project or activity has influence on it.

Table 4.24 Mean and Standard Deviation of Funds allocation

Components	N	Mean	Std. Deviation
Funds allocated on ICT resources for revenue collection	35	.74	.817
Sources of funds for financing revenue collections	34	1.32	.684
Top management support on allocation of funds for revenue collection	35	1.80	1.511
Aggregate Mean		3.86	3.012

Source: Research Data (2018)

4.8 DIAGNOSTIC TEST

To check on normality and multi-collinearity in the data set, and to establish that there was no doubt on the validity on the conclusions reached from the findings, diagnostic tests were employed.

4.8.1 Test for Normality

The study tested for normality by using both Kolmogorov Smirnov and Shapiro Wilk tests. The results are shown in Table 4.25.

Table 4.25 Tests of Normality (Kolmogorov-Smirvo & Shapiro-Wilk)

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
ICT government Policies	.153	35	.036	.944	35	.702
Financial allocation	.169	35	.013	.904	35	.209
Employees perception	.141	35	.076	.934	35	.200
Revenue collection	.241	35	.042	.946	35	0.423

Source: Research Data (2018)

The results in table 4.25 above indicate that using Shapiro- Wilk test the p-value is above 0.05. ICT government policies on revenue collection had a p-value 0.702, financial allocation was 0.209 and Employees perception 0.2. The results indicated that the p-value for the independent variables was above 0.05 and was therefore significant, indicating that the data was normally distributed.

4.9 Regression Analysis

The following table show the relationship among the predictions and influence of the independent variables (ICT policies and revenue collection, employee's perception and funds allocations) to the dependent variable (revenue collections). The regression model indicated that R=0.78 which shows that there was correlation and that was significant for the interpretation. The coefficient of determination R^2 =0.60 was used to explained the variation in ICT policies on revenue collections, Employees perception and funds allocations on revenue collection. Therefore the independent variables contributed 60.2 percent to the dependent variable revenue collection. Therefore, other factors not included

in the study contributed to 39.8 percent to the dependent variable. Such as trainings and awareness motivations, strict follow ups and policies controls among others. The finding of the study concurred with (Mitullah *et al*., 2016) and (Kirimi *et al.,* 2017) who argued that ICT has become basic in increasing transparency and accountability of government agencies; reduced process expenditure in service delivery and the workings of governments as shown in table 4.26.

Table 4.26 ICT Policies on Revenue Collection, Employees Perception, Fund Allocation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.776[a]	.602	.517	.626

Predictors :(Constant), ICT policies on revenue collection,
Employees Perception, Fund Allocation.

Source: Research Data (2018)

4.9.1 Analysis of Variance

The relationship between ICT Considerations and revenue collection in the county government of Nairobi, ANOVA were done at 95 percent confident level and 5 percent significant level. The results obtained were, F statistic value of 7.069 (71 percent). At that level it was noted that F was statistically significant and it shows that there was relationship between ICT considerations and revenue collections. The p-value of 0.05 (5 percent) was also significant since a p-value of 0.004 were found which was lower than the conventional p-value of 0.05. That implies the relationship between ICT Considerations and revenue collection was statistically significant to the study as shown in table 4.27.

Table 4.27 Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.311	3	2.770	7.069	.004[a]
	Residual	5.487	14	.392		
	Total	13.798	17			

Predictors: (Constant), Predictors: (Constant), ICT policies on revenue collection, employees Perception, Fund Allocation. b. Dependent Variable: Revenue collection.

Source: Research Data (2018).

4.10 Coefficients for the Overall Model

The relationship of the variables were analyzed in table 4.28 and the results were obtained as follows.

4.10.1 ICT Policies on Revenue Collection

The first objective aimed at investigating ICT policies on revenue collection. The model indicated that ICT policies had an impact on revenue collection. The relationship with revenue collection with a beta value of (β =0.372, p-value =0.024). The p-value of 0.024 was significant since that was less than 0.05 ($p < 0.05$), and therefore at 5 percent significance level ($\alpha = 0.05$), enough evidence exists to conclude that ICT policies had significant on revenue collection. That was as a result of the ICT system eliminating the excesses of the malpractices on the revenue collection process therefore making the revenue collection more efficient and effective.

The findings of the study were in agreement with those of (Okiro, 2015) and (Otieno *et al.,* 2013) whose study found out that ICT policies on revenue collection boosted the revenue collection and sealed the loop holes of corruptions among those who were involved in collection of the taxes. The study also revealed that the system provided security for personal data, and that ICT on revenue colocations was safe to use providing high levels

of data integrity for its users. The county government of Nairobi should strengthen their ICT revenue systems to realize more improvement in revenue collection.

4.10.2 Employees Perception on Revenue Collection

The second objective was to determine the effect of employees' perception on revenue collection. The model indicated that Employees perception on the use of ICT on revenue collection had positive change. The relationship with revenue collection with a beta value of (β =0.271, p-value =0.044). The p-value of 0.044 was significant since that was less than 0.05 ($p < 0.05$), and therefore at 5 percent significance level ($\alpha = 0.05$), enough evidence exists to conclude that employees perception on the use of ICT on revenue collection had an influence on revenue collection. That was as a result of the ICT system promotes efficiency and effectiveness on revenue collection.

The findings of the study were in agreement with those of (Schaik, 2009) and (Almanary *et al.,* 2014) whose study found out that ICT systems on the use on aiding the certain process had perceived ease of use and perceive usefulness for accomplishing certain objective. Thus it concluded that the ICT system on revenue collection revealed that the system provides security for personal data, and that ICT on revenue collections were safe to use providing high levels of data integrity for its users. The county government of Nairobi should strengthen their ICT revenue systems to realize the positive appreciations.

4.10.3 Financial Allocation

The third objective aimed at examining the influence of financial allocation on revenue collection. The model indicated that financial allocation had positive impact on revenue collection. The relationship with revenue collection with a beta value of (β =0.377, p-value =0.007). The p-value of 0.007 was significant since that was less than 0.05 ($p < 0.05$), and therefore at 5 percent significance level ($\alpha = 0.05$), enough evidence exists to conclude that financial allocation had an influence on revenue collection. That was as a result to allocation of finance on revenue collection or any other project helps in facilitation and running of the objective smoothly or else when the resources were minimal for the project it hinders the objectivity due to the straining of the available resources at that given time.

The findings of the study were in agreement with those of (Muthoni, 2015) and (Pudjianto & HanyJung, 2010) whose study found out that resource allocation on any project had either positive or negative effects, that was because when the resources were not enough it

hinders the success attainment. But on the other hand when there was enough resource allocation to any project promotes positive impact on to success factors. Also during resource allocation to projects in an organization, those who were at the top level of management influenced the awarding of the funds to the projects. Thus on the use of ICT on revenue collection in Nairobi County, the findings indicated that resources allocations had effects on revenue collection.

Table 4.28 Regression Analysis Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.947	.436		2.170	.048
	ICT policies on revenue collection	.372	.147	.436	2.533	.024
	Employees Perception on revenue collection	.271	.122	.405	2.219	.044
	Financial Allocation	.377	.120	.565	3.136	.007

a. Predictors :(Constant), ICT, Perception, Allocation

b. Independent: Revenue collection

Source: Research Data (2018).

Thus;

Revenue collection=0.947+ (0.372 ICT Policies) + (0.271 Employees Perception) + (0.377

Financial Allocation).

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary to the major findings of the study and the conclusions reached, as well as recommendations based on the objectives of the study it also recommended further research areas.

5.2. Summary of the Study

The researcher sought to find out ICT Considerations on revenue collection in Nairobi City County Government. The study led the researcher into an interaction with Nairobi City County Government staff in order to get the reliable and relevant information that would then help in making sound and valid conclusions about the subject. As analyzed and discussed in chapter 4 above.

ICT is useful in an organization and its output benefits out ways the perceived negativity factors. The factors which were brought out by the respondents in Nairobi City County Government. ICT increases the productivity of an organization, improves efficiency and effectiveness of the employees in an organizations and also adds the value proposition to an organization.

ICT policies on revenue collection in the County Governments in Kenya was in existence. Those policies had caused a tremendous positive changes since ICT inception for revenue collection in the counties. Those policies had improved revenue collection, make the collections of the revenue much easier, and increase the level of revenue collection productivity. It had also provided the timely information reduced the cost of revenue collections provided better means or easier error detections sealed the loop holes of corruptions and helped to accomplish much tasks which had not been possible within shortest time through the other systems.

Employee's perception on the use of ICT for revenue collection in County Governments plays a critical role in the overall revenue collection in the county. Many staffs had not been trained on the use of the current ICT system for revenue collection. However some of them had been trained on the use of the system for revenue collection. The issue of more staff not trained on the use of the current system was linked with the system preferred for the revenue collection by the employees. That was deduced about the systems preference

for revenue collections and the respondents selected the previous system than the current system. The current ICT system had positive perception on revenue collection, for instance it was noted that it was easy to use, it was secured in terms of information access and authenticity. ICT on revenue collection had positive impact for instance the system provided complete information, traceability of transactions, there was accuracy of information for better decision making and the ICT system secures information.

Sources of funds for financing revenue collections in the county originated from national government apart from other sources such as county revenue collections, donors and other county investments. That had an influence in collection of revenue using ICT systems since the top management had an upper hand impact on allocation of finances for funding the ICT revenue project.

5.3. Conclusions

The study concluded that ICT considerations had a positive relationship on revenue collection in the county government. Further it was concluded that ICT government policies has a significant relationship on revenue collections, employees perceptions on the use of ICT relates with revenue collection and it had a significant impact on it and financial allocation too has a significant impacts on revenue collection. The study results therefore, concluded that all the independent variables; ICT government revenue policies, employees' perception on the use of ICT and financial allocation positively relate revenue collections and they had significant impact. Thus a changed in either of ICT Considerations would significantly affects revenue collection.

5.4. Recommendations

Based on the variables of the study; ICT policies and revenue collections, Employees perception on the use of ICT for revenue collection and financial allocation on revenue collection, the findings of the study were beneficial to a number of stakeholders if put to use. All the revenue collections departments in the county government since it aids in boosting revenue collections. Also on the other hand the findings of the study were beneficial to the Kenya Revenue Authority since they were too concern with collections of revenues in the country.

The study recommended that county governments should put policies flexible enough to handle technological changes. Training on policies on the use of ICT system for revenue collection. Those could be done during recruitment and inductions of new staff as well as on-job trainings, seminars and workshops. Though these may cost a county but it had the positive implication all together. Since the staff can acquire skills that help them to be comfortable on handing the system thus production output could increase significantly with time. Awareness policies; all stakeholders of the projects should be informed in the counties since from the study results, it was noted that majority of the staff were not aware of the budget of ICT on revenue collection; and thus it should had been communicated clearly so as the whole team could had a whole perception of every move as far as ICT projects for revenue collections were concern. Therefore the counties under the revenue department should develop programs and capacities that will ensure the above challenges were dealt with. That would require the efforts of each sector more so those who were heading various departments so as to pool together all the teams for the success of the county objectives.

5.5. Suggestions for Further Research

The study only considered the questionnaire as the main tool of data analysis, other methods such as interviews can be employed in the collection of data so as to facilitate counterchecking of the information provided. The study was carried out in focusing Nairobi City County government; representing all focusing in Kenya. The research therefore, recommends that the similar study should be conducted on the same in relation to ICT Considerations on revenue collection in other counties or ICT challenges in Kenyan counties when collecting revenue.

REFERENCES

Al-Mamary, Y. H., Shamsuddin, A., & Aziati, N. (2014). *Factors Affecting Successful Adoption of Management Information Systems in Organizations towards Enhancing Organizational Performance*, *2*(5), 121–126. Http://Doi.Org/10.12691/Ajss-2-5-2

Balunywa, W., Nangoli, S., Mugerwa, G. W. Teko, J. & Mayoka, K. G. (2014). *An analysis of fiscal decentralization as strategy for improving revenue performance in Ugandan Local governments*. Journal of Research in International Business and Management, 4(2), 28-36.

Cherotich, A., & Okibo, Walter B. (2016). *Factors Affecting Effective Implementation of Integrated Financial Management Information*, *IV* (4), 1049–1068.

Digital Business Daily Nation, March (2015).

East African Digital Business Week News Paper, N. Paper. *(2014). Nairobi Uses ICT to Raise City Revenues*.

Gichoya, D. (2005). *Factors Affecting the Successful Implementation of ICT Projects in Government*, *3*(4), 175–184.

Githinji, R. K., Mwaniki, M., Kirwa, K. J., & Mutongwa, S. M. (2014). *Information and Communication Technology (ICT) On Revenue Collection by Kenyan Counties*, *4*(11), 238–260. Http://Doi.Org/10.6007/Ijarbss/V4-I11/1303

IMF Report (2010)

Karimi, H. (2017). *Effect Of Technology And Information Systems On Revenue Collection By The County Government Of Embu* , Kenya, *2*(1), 19–35.

Kinyanjui, K.E & Kahonge, A. M. (2013). *Mobile Phone –Based Parking System*.International Journal of Information Technology, Control and Automation (IJITCA),3(1),

Kothari, C. (2004). *Research methodology, methods and techniques*. India, New Delhi; New Age International Publishers.

Lundu, B. L., & Shale, N. (2015). *Effect of Integrated Financial Management Information System (Ifmis) Implementation on Supply Chain Management Performance in the Devolved Government Systems in Kenya* : A Case Of, *1*(5), 1–26.

Maisiba, G. J., & Atambo, W. (2016). *Effects of Electronic- Tax System on the Revenue Collection Efficiency of Kenya Revenue Authority* : A Case of Uasin Gishu County., (4), 815–827.

Maria Ermelinda Rendeiro Vieira (2013). *The effects of ethical behavior on the profitability offirms* – a study of the Portuguese construction industry.

Mathew, J. M. (2014). *Effects of an Integrated Revenue Collection System and Challenges Facing Its Implementation in Machakos County*.

Maxwell, E (2005), *Public sector procurement in Kenya: The need for a coherent Policy Framework*. KIPPRA Discussion Paper No. 62.

Mburugu, P. K., & Gekara, M. (2016). *Determinants Influencing Revenue Collection on the Performance of Kenya Revenue Authority*.

Mugenda, O. M & Mugenda, A. G, (2005). *Research, Qualitative and Quantitative Approaches*.

Muriuki, M. (2009). *Challenges facing the ministry of Finance in the Adoption of Automated Financial Systems*. Unpublished Dissertation, University of Nairobi

Muthoni (2015). Determinants of Implementation of ICT Projects in Kenya.

National ICT Master Plan (2013) retrieved from http://www.ict.go.ke on January 2017.

Ndunda, Ngahu, & Wanyoike. (2015a). *Analysis Of Factors Influencing Optimal Revenue Collection By County Governments In Kenya*, *Iii* (5), 1114–1129.

Ndunda, J. ., Ngahu, S. ., & Wanyoike, D. (2015b). Analysis of Factors Influencing Optimal Revenue Collection by County Governments in Kenya, *Iii* (5), 1114–1129.

Ngotho, J., & Kerongo, F. (2014). *Determinants of revenue collection in developing countries: Kenya's tax collection perspective*. Journal of Management and Business Administration. Retrieved from http://writersbureau.net/journals/jmba/determinants-of-revenue-collectionin-developing-countries-kenyas-tax-collection-perspective.pdf. Retrieved on 20th January 2017.

Nyongesa, N. M. (2014). *Strategies Adopted By the County Government of Mombasa in Raising Revenue*. Unpublished MBA Research Project, Nairobi: University Of Nairobi.

Odago, M. O., & Dr.Mwajuma, A. A. (2013). *Factors Affecting Effective Implementation of E-Proccurement in County Goverments.*, *1*(1), 94–109.

Okiro, A. (2015). *The Effect of E-Payment System on Revenue Collection by the Nairobi City County Government.*

Pudjianto, B. W., & Hangjung, Z. (2010). *Factors Affecting E-Government Assimilation in*
Developing Countries. SSRN Electronic Journal, (April), 1–14. http://doi.org/10.2139/ssrn.1553651

Saunders, M., Lewis, P., & Thornhill, A. (2008). *Research Methods for Business Students*.
Research methods for business students. http://doi.org/10.1007/s13398-014-0173-7.2

Simiyu, D. (2013). *Challenges Affecting Collection of Turnover Tax in Nairobi County - Kenya*.

Tax, E. A. (2014). Tax and Governance County-Capacity-To-Raise-Own-Revenue.

United Nations Report, (2005).

Waiswa, R. (2014). *ICT Contribution to E- Governance in Uganda*.

World Bank Report 2014.

APENDICES

APPENDIX A: COVER LETTER

ROTICH KIPKEMOI BENARD,
KENYATTA UNIVERSIRTY,
P. O.BOX 43844-00100.
NAIROBI.

03RD -08-2017.

TO,
THE COUTNY GOVERNMENT SECRETARY,
NAIROBI CITY COUTY GOVERNMENT.

Dear Sir/Madam;

RE: REQUEST TO CONDUCT A STUDY ON ICT CONSIDERATIONS AND REVENUE

COLLECTION IN NAIROBI CITY COUTY GOVERNMENT.

I am a student in Kenyatta University, Nairobi final year student pursuing Master of Business Administration (MBA), Management information systems (MIS) option.

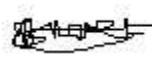
As part of the course work and requirement from university I wish to carry a research on ***ICT Considerations and revenue collection in Nairobi City County government*** as partial fulfillment for the award of MBA degree. I have identified your county government since you have already have ICT system running in place.

The purpose of this letter is to request for your help to answer questionnaires during the study so as to enable me finalize my study.

The information collected during the study be assured that it will treated with confidentiality and is purely for the purposes of this study.

I look forward to your kind responses.

Yours Sincerely;



Rotich Kipkemoi Benard.

APPENDIX B: NACOSTI CLEARANCE PERMIT

THIS IS TO CERTIFY THAT:
MR. ROTICH KIPKEMOI BENARD
of KENYATTA UNIVERSITY, 5510-200
Nairobi,has been permitted to conduct
research in *Nairobi County*

on the topic: *INFORMATION COMMUNICATION TECHNOLOGY ASPECTS AND REVENUE COLLECTION IN NAIROBI CITY COUNTY, KENYA*

for the period ending:
16th November,2018

Permit No : NACOSTI/P/17/77805/20058
Date Of Issue : 16th November,2017
Fee Recieved :Ksh 1000

.....
Applicant's Signature

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

CONDITIONS

1. The License is valid for the proposed research, research site specified period.
2. Both the Licence and any rights thereunder are non-transferable.
3. Upon request of the Commission, the Licensee shall submit a progress report.
4. The Licensee shall report to the County Director of Education and County Governor in the area of research before commencement of the research.
5. Excavation, filming and collection of specimens are subject to further permissions from relevant Government agencies.
6. This Licence does not give authority to transfer research materials.
7. The Licensee shall submit two (2) hard copies and upload a soft copy of their final report.
8. The Commission reserves the right to modify the conditions of this Licence including its cancellation without prior notice.

REPUBLIC OF KENYA

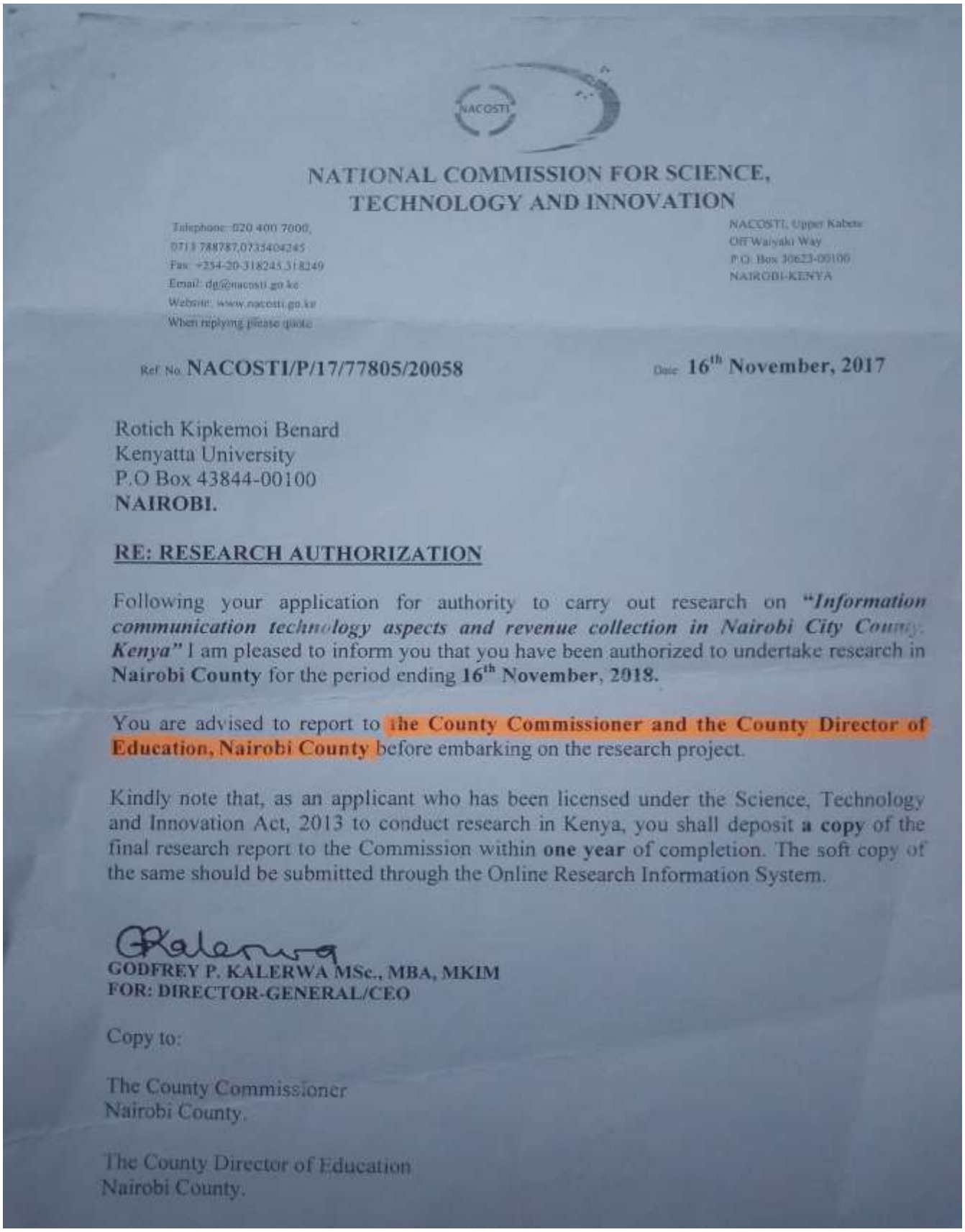
National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No.A 16544

CONDITIONS: see back page

APPENDIX C: NACOSTI RESEARCH AUTHORIZATION PERMIT



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: 020 400 7000,
0713 788787,0735404245
Fax: +254-20-318245,318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/17/77805/20058**

Date **16th November, 2017**

Rotich Kipkemoi Benard
Kenyatta University
P.O Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Information communication technology aspects and revenue collection in Nairobi City County, Kenya"*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for the period ending **16th November, 2018.**

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

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

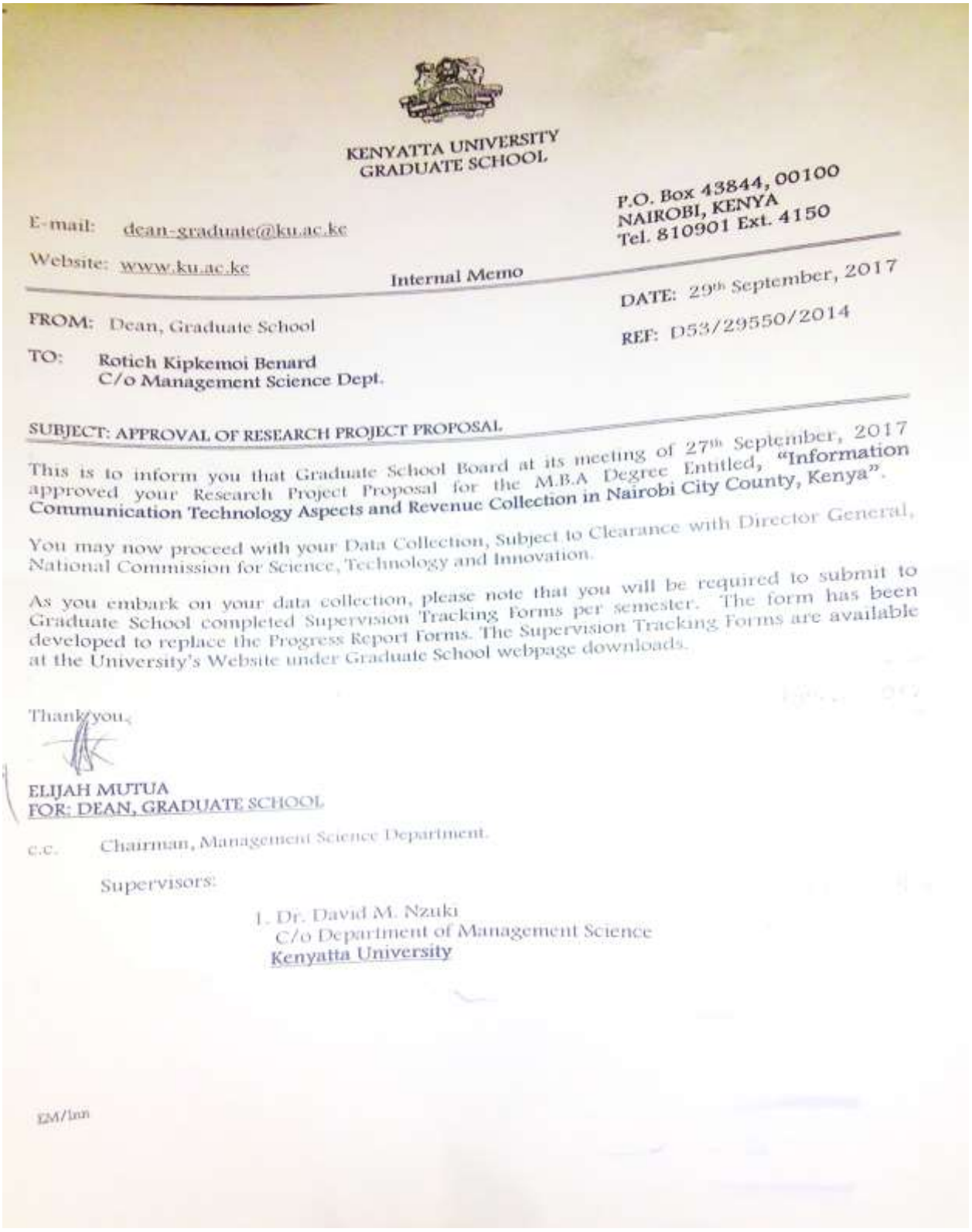
GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County.

APPENDIX D: APPROVAL OF RESEARCH PROJECT PROPOSAL LETTER



KENYATTA UNIVERSITY
GRADUATE SCHOOL

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

Internal Memo

DATE: 29th September, 2017

FROM: Dean, Graduate School

REF: D53/29550/2014

TO: Rotich Kipkemoi Benard
C/o Management Science Dept.

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 27th September, 2017 approved your Research Project Proposal for the M.B.A Degree Entitled, "**Information Communication Technology Aspects and Revenue Collection in Nairobi City County, Kenya**".

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

Thank you.

ELIJAH MUTUA
FOR: DEAN, GRADUATE SCHOOL

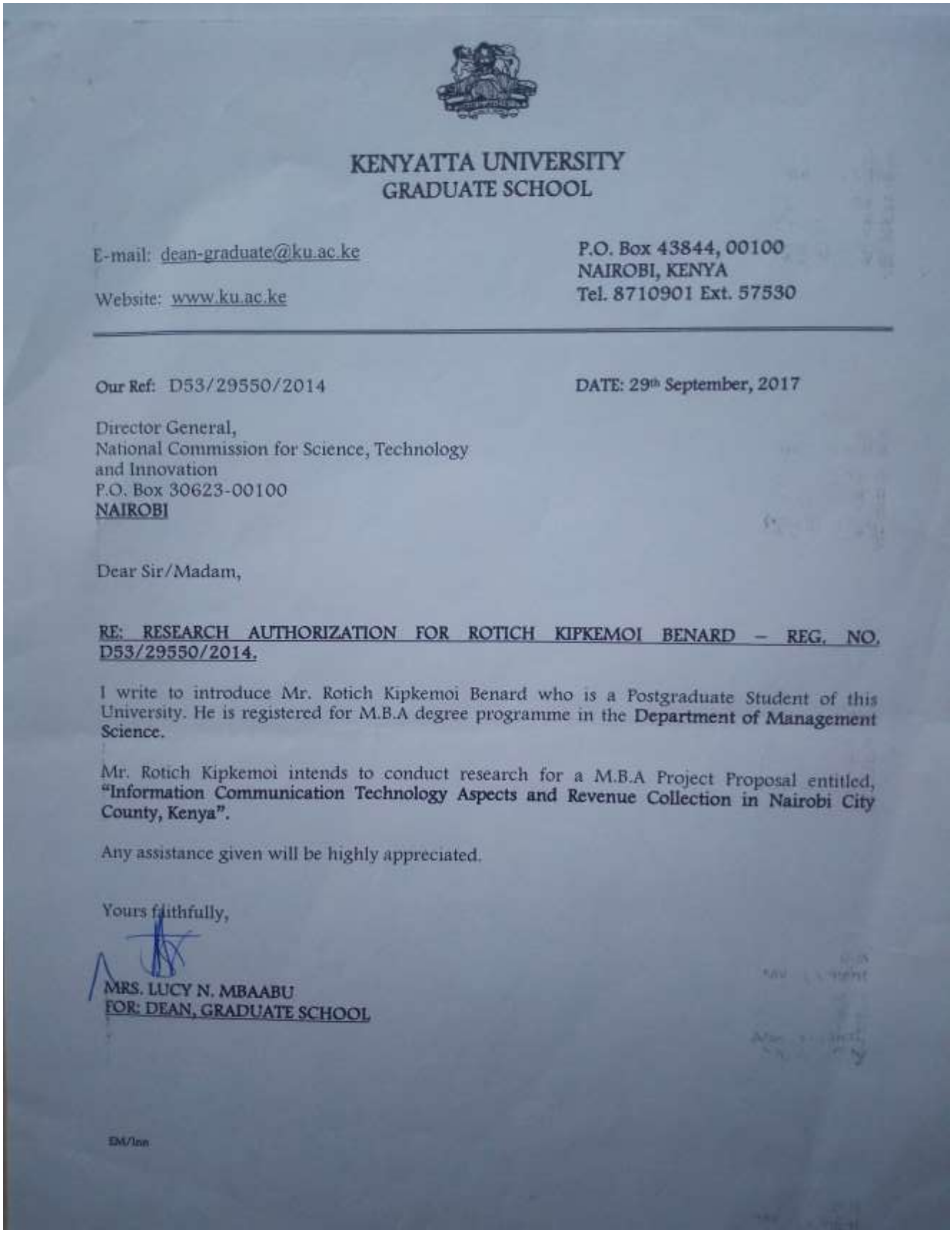
c.c. Chairman, Management Science Department.

Supervisors:

1. Dr. David M. Nzuki
C/o Department of Management Science
Kenyatta University

EM/lnn

APPENDIX E: RESEARCH AUTHORIZATION LETTER FROM UNIVERSITY



KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: D53/29550/2014

DATE: 29th September, 2017

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR ROTICH KIPKEMOI BENARD – REG. NO. D53/29550/2014.

I write to introduce Mr. Rotich Kipkemoi Benard who is a Postgraduate Student of this University. He is registered for M.B.A degree programme in the **Department of Management Science.**

Mr. Rotich Kipkemoi intends to conduct research for a M.B.A Project Proposal entitled, **"Information Communication Technology Aspects and Revenue Collection in Nairobi City County, Kenya".**

Any assistance given will be highly appreciated.

Yours faithfully,

MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL

EM/lnn

APPENDIX F: QUESTIONNAIRE

The sample questionnaire that I will administer to the respondents for data collection.

SECTION A: BIO- DATA. PLEASE TICK WHERE POSSIBLE (✓).

1. Date …….
2. Gender: Male ☐ Female ☐
3. Age bracket: 20-30 ☐ 31-40 ☐ 41-50 ☐ 51-Above ☐
4. Name of the department……..
5. Job designation…….
6. Work experience in the organization.

   0-10 ☐ 11-20 ☐ 21-30 ☐ 31-above ☐

7. Level of education:-

Certificate	**Bachelors**	**Masters**	**PHD Others**
☐	☐	☐	☐

SECTION B: ICT POLICIES ON REVENUE COLLECTION. PLEASE TICK WHERE POSSIBLE (✓).

8. Do you have the ICT policies which guides the revenue collection in the county? Please tick where possible.

i. **YES** ☐

ii. **NO** ☐

9. Does ICT government revenue policies improves on revenue collection?

STRONGLY AGREE	**AGREE**	**STRONGLY DISAGREE**	**NO IDEA**
☐	☐	☐	☐

10. How frequently are those policies made frequently to your awareness or to the public?

MOST FREQUENTLY	**FREQUENNLY**	**MOST OFTEN**	**OFTEN**	**NONE**
☐	☐	☐	☐	☐

11. Do those submitting and collection revenue adhering to the set ICT policies when making revenue transactions?

STRONGLY AGREE	**AGREE**	**STRONGLY DISAGREE**	**NO IDEA**
☐	☐	☐	☐

12. Does those ICT policies ease the revenue collection? Please tick where possible.

STRONGLY AGREE ☐ **AGREE** ☐ **STRONGLY DISAGREE** ☐ **NO IDEA** ☐

13. Does ICT policies on revenue collection increases revenue productivity?

STRONGLY AGREE ☐ **AGREE** ☐ **STRONGLY DISAGREE** ☐ **NO IDEA** ☐

14. Do you belief that the existing ICT policies on revenue collection are sufficient or it needs some amendments?

YES ☐ **NO** ☐

15. Since the inception ICT policies on revenue collection, do you agree that those policies helps to? Please tick where possible (✓).

		STRONGLY AGREE	**AGREE**	**DISAGREE**	**STRONGLY DISAGREE**	**NO IDEA**
	Produce timely reports					
	Reduce cost					
	Increase level of accuracy					
	Error reduction					
	Minimize/Seal corruption					
	Maximize Revenue collection					

SECTION C: EMPLOYEE'S PERCEPTION ON REVENUE COLLECTION.

PLEASE TICK WHERE POSSIBLE ( ).

16. Have you been trained on the use of the new ICT jambopay system for revenue collection?

i. **YES** ☐

ii. **NO** ☐

17. Which ICT system do you prefer for revenue collection?

i. **JamboPay system** ☐

ii. **Office Automated system** ☐

18. Do you belief that the **ICT system** which is currently used in revenue collection has the following qualities? Please tick where possible.

		STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE	NO IDEA
	Easy to use					
	Easy to learn					
	Has user expectations					
	Error detection					
	User interface friendly					
	There is data security					
	Adequacy of features required					

19. Do you agree that the ICT system which is currently used in revenue collection produces **quality information** in terms of? Please tick where possible.

		STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE	NO IDEA
	Completeness					
	Accuracy					
	Timeliness					
	Traceability of transactions					
	Client support					
	There is data security					
	Adequacy of features required					

SECTION D: FINANCIAL ALLOCATION ON REVENUE COLLECTION

PLEASE TICK WHERE POSSIBLE (✓).

20. Does the budget allocation for financing ICT resources is enough? Please tick where possible.

STRONGLY AGREE ☐ **AGREE** ☐ **STRONGLY DISAGREE** ☐ **NO IDEA** ☐

21. Where are the sources of funds for financing the collection of revenue in the country? Tick where possible.

i. **Donors** ☐

ii. **National government (treasury)** ☐

iii. **Revenues collected** ☐

iv. **Others (Business & investments)** ☐

22. Does top management support on allocation of more funds to finance the ICT components for revenue collection? Please tick where possible.

STRONGLY AGREE ☐ **AGREE** ☐ **DISAGREE** ☐ **STRONGLY DISAGREE** ☐ **NO IDEA** ☐

23. Has there been an increase in financial allocation set to finance the ICT revenue collection? Please tick where possible.

STRONGLY AGREE	**AGREE**	**DISAGREE**	**STRONGLY DISAGREE**	**NO IDEA**
☐	☐	☐	☐	☐

APPENDIX G: NAIROBI CITY COUNTY GOVERNMENT SECTORS

Figure C1: Nairobi City County government sectors**.**

Nairobi City County Government Sectors	
1	Agriculture, Livestock And Development Fisheries Sector
2	County Assembly
3	County Secretary And Head Of County Public Service
4	Education, Youth Affairs, Culture, Children And Social Services Sector
5	Finance And Economic Planning Sector
6	Health Services Sector
7	Information, Communication And E-Government Sector
8	Lands, Housing And Physical Planning Sector
9	Public Service Management Sector
10	Public Works, Road And Transport Sector
11	Trade, Industrialization, Cooperative Development, Tourism And Wildlife Sector
12	Water, Energy, Forestry, Environment And Natural Resources Sector

Source: http://www.nairobi.go.ke/home/about-the-county/assembly accessed on February 2018.