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# Influence of ICT Adoption on Revenue Collection Process by Government of Kenya: A Case of Nairobi County Government

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***Abstract:*** *The purpose of this study was to determine the influence of ICT adoption on revenue collection process with a case study of Nairobi County Government having the following objectives, to determine influence of Cloud Computing on revenue collection process, establishing out how Mobile Phone Technology influences revenue collection process, analyze how E-Wallets influence revenue collection process and find out how e-government influences revenue collection process in Nairobi County Government. The study adopted a descriptive research design. The study aimed at collecting information from respondents on influence of information and communication technology on the revenue collection in the Nairobi County Government. The target population of the study was employees under Nairobi County Government while the study population was top management staff, middle and lower management staff who deal directly with the day to day operations at the revenue collection points.*

***Keywords:*** *Cloud Computing, Revenue Collection, Mobile Phone, E-Wallets, E-government, Technology*

## 1. Introduction

Effective penetration and utilization of ICT in the public service for high-end value-adding operations in local government is crucial to enhance effective and efficient services that satisfy the citizens and other stakeholders. ICT penetration and utilization in the local government has not reached the levels necessary to reap the benefits of ICT in revenue collection (Akomea-Bonsu & Sampong, 2012). This is evident in the ongoing diffusion of ICT and e-business technologies and services among local authorities which is a striking example of the possible dynamics of technological change and economic development.

Virtually all economic spheres can be affected by technologically induced changes, including innovation dynamics, Productivity and growth, the development of market structures, and the composition of labor demand (Mensah et al 2012). Over the years, technology in business has been changing rapidly as the global environment becomes highly competitive and innovative. The use of Information Communication Technology (ICT) has become very vital to all organizations that intend to remain competitive in the market.

Laudon and Laudon, (2007) assert that ICT includes all the technologies that facilitates the processing, transfer and exchange of information and communication services. It is considered as a subject of expertise that links information technology (computers and applications) and telecommunication networks (intranet and internet), that lets people and computers interrelate irrespective of physical location. Werthner and Klein, (2005) conclude that the ICT term contains hardware, software, networks and people that should be integrated as a one unit by linking each one to the other in a clear process to generate the information that helps the decision makers, producing product and services presenting, promotion, controlling and for achieving the organization's aims and goals.

## 2. Local perspective of Information Communication Technology

According to Ombati, (2007) Information Communication Technology in Kenya is at the early adoption stage. Very few companies have the pre-requisite ICT infrastructure that is necessary for the implementation of technology in revenue collection process. This has been attributed to the astronomical costs that are involved in the setting up of the infrastructure as well as the skills gap that exists in the labour market.

The government of Kenya considers ICT as a key pillar in the success of Vision 2030 which aims at transforming the country into an industrialized nation

by the year 2030. To this end, a fully-fledged ICT board has been set up by the government to spearhead the ICT revolution in the country which is a positive signal for adoption of Information Communication Technology in revenue collection (Maina, 2004).

This has in their master plan projects to be singled out for their ability to impact on Kenyans' livelihoods and the country's economic growth. These projects are the National Digital Registry Services, a Citizen Service Portal and Government Shared Services. The Connected Kenya Summit, first held in 2009, is the brainchild of the ICT Authority in consultation with ICT industry players and key government decision makers. Its aim is to establish a platform for collaboration, capacity building and knowledge sharing between government and the ICT sector with a view of linking and hastening implementation of government IT projects to world-class standards (Kevin, 2006).
Some of today's leading government projects have links with Connected Kenya. With its remarkable mix of decision-makers from government and leading ICT thinkers from the industry, the Summit has enabled its participants to develop unique insights that allow them to successfully respond and design their engagement in Kenya's vibrant ICT sector. Projects such as Kenya Open Data Initiative, Huduma citizen's portal and the development of a national Information Security Policy were informed or refined from discussions and panels held at Connected Kenya (Maina, 2004).

## 3. Statement of the Problem

The County Government of Nairobi, the largest Local Authority in Kenya, produces more than half of the country's Gross Domestic Product. In the financial year 2012/2013, the City Government of Nairobi operated with a budget of Sh15.5 billion. Out of the budget, 43% was reserved for improvement on ICT (Nairobi County Government, 2014). This was after the auditor general's report revealed that from January 1 2013 to June 30 2013 a total of Sh5.5 billion was collected from various sources but only Sh5.2 billion was banked resulting to under-banking of Sh252 million. According to a research report on the involvement of the public in revenue collection in Kenya's Local Authorities by the Kenya Alliance of Resident Associations, the majority of the members of the public in all the LAs surveyed (90.1%) believed that the local authorities were not transparent in terms of revenue collection.
Due to the aforementioned challenges, the Nairobi County government began by adopting an e-payment system in 2015 with the aim of reducing the revenue leakage that had been going on. The e-payment system was one of the projects introduced under an umbrella dubbed Integrated County Management System. Under this flagship project, the County government has automated payment of land rates, parking fees and house rents.
Further, most of the previous studies have been conducted in other countries with only a few in developing countries and little on the public sector. While the previous local and international studies form a good basis and foundation on which this research was founded, they all leave major gaps in knowledge that need to be filled. With the adoption of ICT into the activities of the Nairobi County government, this study will therefore seek to look onto the influence of ICT adoption on revenue collection process by the government of Kenya.

## 4. Objectives of the Study

### 4.1 General objective

The study seeks to analyze the influence of ICT adoption on revenue collection process by government of Kenya

### 4.2 Specific objectives

The specific objectives of this study are:

**i)** To study the influence of Cloud Computing on revenue collection process in Nairobi County government

**ii)** To establish the influence of Mobile Phone Technology on revenue collection process in Nairobi County government

**iii)** To find out how E-Wallets influence revenue collection process in Nairobi County government

**iv)** To analyze the influence of e-government on revenue collection process in Nairobi County government

### 4.3 Research questions

The study sought to answer the following questions:

**i)** How does Cloud Computing influence revenue collection process in Nairobi County Government?

**ii)** To what extent does use of Mobile Technology influence revenue

collection process in Nairobi County Government?

**iii)** How does the use of E-Wallets influence revenue collection process in Nairobi County Government?

**iv)** What is the influence of e-government on revenue collection process in Nairobi County Government?

## 5. Scope of the Study

The study seeks to determine the influence of ICT adoption on revenue collection process: a case study of Nairobi County Government. The study concentrated on four variables; Cloud Computing, Mobile Phone Technology, E-Wallets and E-government on how they influence revenue collection process in Kenya. The study will involve 244 employees of Nairobi County Government as the target population from top level management, middle level management and low level management where the respondents are considered to be ones benefiting from the study. Questionnaires will be used as instruments to collect data.

## 6. Limitation of the Study

There are several anticipated limitations in the course of this study. Firstly, there could be challenges in obtaining information from the top management of the Nairobi City County where some may be having busy schedule to participate in the study or may simply choose not to answer the questionnaires. Secondly, resistance from respondents may be expected primarily because they may be suspicious of the study intentions. An introduction letter from the university will assure them of their anonymity and the fact that the findings will to be used purely for academic purposes. The accuracy of the results will depend on the honesty of the respondents, though with the assurance given to the respondents it is the hope of the researcher that honest responses will be given.

## 7. Empirical Review

## 7.1 Cloud Computing

Foster et al., (2008) study found out that when comparing the cloud idea to the existing clusters or supercomputers, it is obvious that the cloud is located globally and is made of heterogeneous and mostly anonymous computer networks. According to Foster et al. (2008) study, cloud computing and grid computing are the same when it comes to the vision, which is decreasing the costs of computing while increasing the flexibility, quality and reliability by outsourcing a service to a third party. However the scale of how things were 10 years ago and how things are now, is different.

Werthner & Klein, (2005) found out that the data that needs to be analyzed nowadays is huge and generates therefore even more computing demand. With virtualization and the huge investments of large companies such as Amazon, Google, and Microsoft it creates "real commercial large-scale systems containing hundreds of thousands of computers" (Foster et al., 2008). In other words, cloud computing has put distributed computing into another stage. Now it needs just a simple user account to access on-demand computers that are located in datacenters all around the world being able to compute a massive amount of data just-in-time (Foster et al., 2008). That makes cloud computing new and exciting for companies to invest in.

## 7.2 Mobile Technology influence on Revenue Collection Process

According to the GSMA "The mobile economy 2014" report, the mobile economy has grown from just a little under one billion subscribers in 2003 to approximately 3.4 billion unique subscribers by the end of 2013. With this tripled user has come with a revolution in how people interact with their mobile phones. Mobile technology is a key ICT tool that has affected business and also government agencies positively (Vulkan, 2008)

(Ihub Research 2013) revealed that Kenya has about 30,429,351 mobile subscribers. Almost 80% of people with mobile phones use them for mobile money transfers putting the annual transfers to over $10 Billion making Kenya a leading country in all the mobile money payments and transfers across the globe. Due to this, the announcement of Nairobi County government to switch to e-payment for its services was not a big surprise but was long overdue (Vulkan, 2008). With the numerous functionalities that a smart phone offers, individuals can easily do all their payments via the help of a mobile gadget.

Today's generation of phones can act as an entertainment device, a personal organizer (Calendar and notes), a communication gadget (Both voice and text) reason it is largely referred to as the smart phones or palmtops (Werthner & Klein, 2005). The Rwanda Government in 2013 moved a step further in introducing a mobile facility that allowed declaration and payment of taxes by use of mobile phones (Werthner & Klein, 2005). With the continual adoption of Technology the Rwanda Revenue Authority registered a performance of 100 percent in gross revenue mobilization, Uganda Revenue

Authority registered 97 percent while Kenya Revenue Authority registered a 90%.

## 7.3 E-Wallets influence revenue collection

Since the advent of the Internet and e-commerce, governments have struggled to agree on tax treatment for cross-border online transactions. Unlike offline transactions, where the location of the buyers and sellers can be clearly and easily identified within a single geographic location and as such, an applicable tax rate applied, the nature of cross-border transactions mean that there is not one clear, single, overarching tax jurisdiction and applicable rules(Rutenbeck, 2012). For years, there have been discussions and some developments, but debates have been ongoing. With tight economic conditions, coupled with burgeoning budget deficits, governments have stepped up efforts to recapture lost tax revenues and balance the playing field as increasing transaction volume continues to move online (Vulkan, 2008).

## 7.4 E-government influence on revenue collection

Existing literature highlights the revolutionary nature of e-government in governments, and provides a basis to investigate the evaluation of this phenomenon from a perspective of citizen derived value and benefits (Atkinson, 2006). However some scholars suggest that the evaluation of e-government is neglected, underdeveloped and under-managed (Arnold, 2008) this is not the result of exclusion, but it shows the extent of complexity that is fundamental to deriving an appropriate evaluation criteria (Vulkan, 2008). According to Vulkan, (2008) the most frequently designated reasons for deficiency of in evaluation are problems of identifying and quantifying benefits and opportunity costs, lack of evaluation methods and techniques, and difficulty in interpreting results.

Some studies do take on traditional evaluation approach to evaluate e-government services. However, for accurate evaluations of e-government services consideration of multiple perspectives of stakeholders is essential (Rutenbeck, 2012). The focus here is to take a broader perspective, acknowledging that e-government not only permeates government agencies and their operational practices but also society, citizens and their social activities.

Maringa, (2008) argues that the relationship between citizens and government services can be successfully transformed only if the citizens' perspectives of government services are objectively measured and the areas of improvement are correctly identified. This implies that the precise evaluation of e-government service needs to include not only all stakeholders' perspectives and the social and technical context of use but also consider inclusion of the specific needs of several groups of citizens which are using a specific e-government service such student, professional, and so forth (Rutenbeck, 2012).

Generally, to precisely determine the benefits that are associated with e-government evaluation are required though is difficult. E-government initiatives goals and objectives in practice are very varied as a result the gained benefits also vary, and the evaluations of the initiatives obviously will vary according to the different stakeholders' perspectives on the value of these benefits (Asabere, 2012).

## 7.5 Research gaps

Information technology in revenue collection has been investigated by a number of researchers over a long period and from different viewpoints. Despite their limitations, these studies have contributed to the existing knowledge and understanding of how ICT improves revenue collection by governments. This study widely considers cloud computing, mobile phone technology, e-wallets and e-government as major contributing factors on the influence of ICT adoption on revenue collection process, however there was little literature available that gives these factors the weight they carry when it comes to influencing revenue collection process. This study therefore adds to the literature by establishing the influence of ICT adoption on Revenue collection process by the government of Kenya, a developing country, hence filling the study gap.

# 8. Methodology

## 8.1 Study design

The study will adopt a descriptive survey design which according to Churchill (1991) is appropriate where the study seeks to describe the characteristics of certain groups, estimate the proportion of people who have certain characteristics and make predictions. The study aim at collecting information from respondents on influence of information and communication technology on the revenue collection process in the Nairobi County Government. Khan (1993) recommends descriptive survey design for its ability to produce statistical information about aspects of education that interest policy makers and researchers.

Descriptive survey research designs are used in preliminary and exploratory studies to allow

researchers to gather information and summarize, present and interpret data for the purpose of clarification (Orodho, 2003). According to Mugenda and Mugenda, (2003) the purpose of descriptive research is to determine and report the way things are and it helps in establishing the current status of the population under study. The design will be used for this study due to its ability to ensure minimization of bias and maximization of reliability of evidence collected.

## 8.2 Sample Size Selection and Sampling Procedure

The sampling plan describes the sampling unit, sampling frame, sampling procedures and the sample size for the study. The sampling frame describes the list of all population units from which the sample will be selected (Cooper & Schindker, 2003). A sample of 71 respondents from within each group in proportions that each group bear to the population as whole was taken using slovin's formula:

$n=N/ (1+Ne^2)$.

Where;
n=sample size
N=total population i.e. 244 employees
e=Error tolerance. The study confidence level will be 90% which will give a margin error of 0.1
The sample size is calculated as follows;
$n=244/ (1+244*0.1^2)$
n=244/3.44
n=70.9302
n=71

The study will employ stratified random sampling technique in selecting sample size from the three strata (top management staff, middle and lower management staff). Stratified random sampling is unbiased sampling method of grouping heterogeneous population into homogenous subsets then making a selection within the individual subset to ensure representativeness (Yin, 1994). The goal of stratified random sampling is to achieve the desired representation from various sub-groups in the population. In stratified random sampling subjects are selected in such a way that the existing sub-groups in the population are more or less represented in the sample (Mugenda & Mugenda, 2003).

**Table1: Sampling and Sample Size**

| | Frequency | Sample Size |
|---|---|---|
| Top Management | 20 | 5 |
| Middle level | 98 | 23 |
| Low Level | 126 | 43 |
| **Total** | **244** | **71** |

## 8.3 Data Collection Procedure and instrument

A research questionnaire will be used as the main instrument for data collection which is a research instrument consisting of a series of questions and other prompts for the purpose of gathering information from the respondents (Mugenda, 2008). The study will rely on data collected through a questionnaire structured to meet the objectives of the study. According to Mugenda and Mugenda, (2003) questionnaires are commonly used to obtain important information about a population under study.
The study will collect both primary and secondary data. Primary data will be collected from respondents using a questionnaire that will be distributed to the respondents by providing access to the online survey form by sending out notification emails. Secondary data is obtained from published documents or materials such as journals and magazines to supplement the primary data received from questionnaires (Yin, 1994).

## 8.4 Pilot Study

A pilot study will be conducted using the questionnaires on 1% of respondents working in the different job levels in Nairobi County Government in Kenya. The purpose of the pilot testing will be to establish the accuracy and appropriateness of the research design and instrumentation and therefore enhance face validity. After the pilot testing the main survey followed. The respondents will be conveniently selected since statistical conditions are not necessary in the pilot study (Kothari, 2004). The purpose will be to refine the questionnaire so that respondents in the major study will not have any problem in answering the questions. The questionnaire will be hand delivered and administered at the respondents' place of work to ensure objective response and reduce non-response rate. The results of the pilot study will be included in the actual study.

## 9. Findings, Data Analysis and Discussion

## 9.1 Response Rate

Questionnaires were distributed to top management staff, middle and low level management staff and responses were distributed as indicated in Table 4.1. A total of 12, 61 and 78 staff were targeted from top, middle and low level management respectively translating into a total target number of respondents 151. However, the duly filled and collected

questionnaires were 7 (58.3%), 43 (70.5%) and 63 (80.8%) from the top, middle and low level management staff respectively. Comparatively, this indicates that the low level management had the highest response rate (80.8%). Overall, the total responses were 113 which is a response rate of 74.8%.

**Table 2: Distribution by Response Rate**

| Categories | Total Targeted | Total Collected | Response Rate (%) |
|---|---|---|---|
| Top management | 12 | 7 | 58.3 |
| Middle level management | 61 | 43 | 70.5 |
| Low level management | 78 | 63 | 80.8 |
| Total | 151 | 113 | 74.8 |

## 9.2 Pilot Testing

The reliability of the data collection instrument was measured using the internal consistency technique in which case Cronbach's alpha was computed using SPSS version 21. This was computed from the data collected in the pilot study. The results as presented in Table 4.2 indicates that the obtained data was reliable since the Cronbach's alpha value for all the independent variables was between 0.7 to 0.859 which was above the 0.7 threshold required. An alpha coefficient higher than 0.70 indicates that the gathered data had relatively high internal consistency and could be generalized to reflect opinions of all respondents in the target population on influence of ICT adoption on revenue collection process by government of Kenya.

**Table 3: Reliability Analysis**

| Constructs | Cronbach's Alpha Values | No of Items | Comments |
|---|---|---|---|
| Cloud Computing | 0.731 | 17 | Accepted |
| Mobile Phone Technology | 0.833 | 6 | Accepted |
| E-Wallets | 0.859 | 9 | Accepted |
| e-government | 0.805 | 9 | Accepted |
| Revenue collection process | 0.752 | 4 | Accepted |

## 9.3 Correlation Analysis

To examine the relationship between the variablesin the study, Pearson correlation coefficient (r) was used. The coefficient indicated the the direction and extent of the relationship between all the variables included in the study. The Pearson Correlation Coefficient indicated that all the variables were positively correlated with each other. The most positively correlated variables were cloud computing and revenue collection process whose correlation coefficient was 0.805. The least positive correlation was between E-government and revenue collection process with a correlation coefficient of 0.583.

**Table 4: Pearson's correlation coefficient**

| Model Summary | | | |
|---|---|---|---|
| R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 0.855 | 0.731 | 0.697 | 0.189 |

## 9.4 Analysis of Variance (ANOVA)

Analysis of variance (ANOVA) was used to generate the F value and hence F test was conducted. ANOVA helped to show the relationship in the variables between and within the measure of the dependent variable. According to the ANOVA results, the probability value for the regression model was 126.6. The overall goodness of fit is summarized by calculating the fraction of total variance explained by the fit which is presented by the R square. Given the high R square value of 0.731, it implies that independent variables for this study had a high/significant goodness of fit. Moreover, the results from the ANOVA imply that the four independent variables (Cloud computing, Mobile phone technology, E-government and E-wallets) are critical in explaining changes in revenue collection process at Nairobi County.

**Table 5: Analysis of Variance (ANOVA)**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 20.256 | 4 | 5.064 | 126.6 | 0.000 |
| Residual | 4.275 | 108 | 0.040 | | |
| Total | 24.531 | 112 | | | |

Predictors: (Constant), Change in Cloud computing, Mobile phone technology, E-government and E-wallets
Dependent Variable: Revenue collection process

## 10. Summary of the Findings

### 10.1 Effect of Cloud Computing

In particular, the influence of cloud computing on revenue collection process was rated at a mean of 4.3 with a low deviation of 0.5. Correlation analysis revealed that the most positively correlated variables were cloud computing and revenue collection process with a correlation coefficient of 0.805. From the regression analysis, an increase of a unit of cloud computing leads to an increase in revenue collection process by 0.576.

### 10.2 Effect of Mobile Phone Technology

On the other hand, the effect of mobile phone technology on the process was rated at a mean of 4.2 with a standard deviation of 4.2. The least positive correlation was between mobile phone technology and cloud computing with a correlation coefficient of 0.489. From the regression analysis, an increase of a unit of mobile phone technology increases revenue collection process by 0.360.

### 10.3 Effect of E-Wallets

The staff rated the influence of E-wallets on revenue collection process at a mean of 4.1 with a standard deviation of 0.6. The correlation between e-wallets and revenue collection process was 0.769. From the regression analysis, a unit increase in e-wallets increases revenue collection process by 0.128.

### 10.4 Effect of E-government

Lastly, e-government was asserted to influence the revenue collection process in Nairobi County government with a mean of 3.9 and a standard deviation of 0.7. The correlation between e-government and revenue collection process was 0.583. From the regression analysis, a unit increase in e-government and e-wallets increases revenue collection process by0.041.

### 10.5 Revenue Collection Process

The influence of ICT in general on revenue collection, the effect was rated at a mean of 4.0 with a standard deviation of 0.7.The staff asserted that it highly enhances the effectiveness of the revenue collection process as well as its efficiency. They however doubted its ability to ensure greater accountability in the process. The coefficient of determination (R square) indicated that cloud computing, mobile phone technology, e-government and e-wallets collectively influence revenue collection process at Nairobi County government by 73.1%. However, if Cloud computing, mobile phone technology, e-government and e-wallets are held constant (at zero); regression analysis indicated that revenue collection process in the Nairobi County government will be 0.814.

## 11. Conclusions

In the light of the findings from this study, it can be inferred that cyber security governance has a strong influence on consumer protection in online business transactions. Good governance of cyber security comes up with good policies that influence customer protection. This is mainly through the proposition and implementation of measures to protect the transmission and exchange of data on the internet. Even so, it sometimes becomes a challenge to enforce of such regulations, either because the enforcement mechanism is weak or the enforcers themselves are reluctant to enforce. On the same note, safe information sharing can have both positive and negative influence. The positive influence is through improved consumer confidence; safe online transactions and thus enhanced online business. On the other hand, the negative effect occurs by virtue that, the safe information that may be shared by the client to user of that information sometimes end up being shared to marketers without knowledge of the provider of the information. This in turn makes some customers vulnerable to cyber fraud and may also affect the integrity of the organization.

This study also concludes that cyber security research and development has a great influence on online consumer protection. In this regard, the role played by the private sector and the industry as well, has the greatest effect on online consumer protection. Generally, cyber security research and development helps to identify the gap in cyber insecurity counter measures and its influence on online consumer protection. It further helps maintain the pace and complexity in development of cyber threat and it is often futuristic. In this way, it helps pre-empt on eminent cyber danger, thus devising means of possible elimination or reductions of the real and imagined threat. This is achieved through improvement on cyber security weakness observed. Still on this note, cyber security space strongly influences e-consumer protection. Its greatest effect is on insider threats and insecure web applications/platforms, with minimal effect on online advertising compliance.

The effect of ICT legal and regulatory frameworks on online consumer protection is also great. With regard to this, data protection laws and cyber security laws exerts the greatest influence. Generally, the effect exerted by ICT legal and regulatory frameworks is mainly through the setting of the basic ICT security policy that ensures online customers are

not exposed to online security threats. Even so, it could prolong the process of online transaction. Moreover, though it seeks to improve online consumer protection, weak legal frameworks in Kenya have to an extent contributed to poor online consumer protection. Most of online shops are inadequately informed about the consumer protection policy. This could be due to high inaccessibility of the procedures on regulation of online transactions. Not only are they not well familiar with electronic contacts, but also they are less informed about Consumer Protection Acts in Kenya that addresses internet agreements. In addition, very few are familiar with the cancellation of internet agreement procedure as per clause 34 of the Consumer Protection Act of Kenya.

From the findings, it can also be inferred that cyber security infrastructure greatly determines online consumer protection. In this regard, the most determinant factor is the cost of ICT. Proper and adequate cyber security infrastructure like firewalls can greatly help improve on consumer data. It further provides the basic ICT security protection for customers' privacy during online transactions. As such, customers are protected against fraud; blocking unwanted sites and enforcing processes and procedures. In Kenya however, lack of elaborate cyber security infrastructure has to some extent lead to poor online consumer protection, consequently increasing cyber-attacks. Overall, it can be concluded that cyber security strategies exert quite a great effect on online consumer protection. Although the most affected aspect is improved data sharing, customer redress and dispute resolution are also significantly affected.

## 12. Recommendations

## 12.1 Effect of Cloud Computing

It is deduced that there exists a significant relationship between revenue collection process and computing. Cloud computing has mainly influenced the process by improving the process performance and information accessibility in the process.

## 12.2 Effect of Mobile Phone Technology

It is concluded that there exists a significant relationship between revenue collection process and mobile phone technology. Mobile phone technology has improved flexibility and services awareness as well as enhancing convenience in tax payment.

## 12.3 Effect of E-Wallets

It is concluded that there exists a significant relationship between revenue collection process and e-wallets. E-Wallets on the other hand has mainly facilitated storage of payment information and increased security in the process while at the same time enhancing ease of access to conducting online payments.

## 12.4 Effect of E-government

It is inferred that that there exists a significant relationship between revenue collection process and e-government. On its part, e-government has greatly improved quality of service and enhanced transparency in the revenue collection process. It has however not adequately enhanced privacy.

## 12.5 Revenue Collection Process

From the findings, it can be concluded that ICT generally has exerted a great influence on revenue collection process in Nairobi County government. In this respect, it has highly enhanced the effectiveness and efficiency of the revenue collection process. However, it is important to note that it is yet to ensure improved accountability in the process. It can be inferred that all the various ICT elements examined including Cloud computing, Mobile phone technology, e-government and e-wallets have had a major positive influence on the revenue collection process. Comparatively, cloud computing has exerted the greatest influence followed by mobile phone technology, e-wallets and e-government in that order. Collectively, cloud computing, mobile phone technology, e-government and e-wallets collectively explain over two-thirds of all the changes in revenue collection process at Nairobi County government. They tend to depict a direct relationship where an increase in any of these variables increases the revenue collection process by a certain margin.

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