EFFECTS OF ADOPTION OF ELECTRONIC TAX SYSTEMS ON TAX REVENUE COLLECTION BY KENYA REVENUE AUTHORITY IN NAIROBI REGION, KENYA

BY

KALOMBA LUCKY WAMBUI

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DECLARATION

Declaration by Candidate

I declare that this thesis is my original work and has not been presented to any other institution. No part of this thesis may be reproduced without prior permission of the author and / or Moi University.

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KALOMBA LUCKY WAMBUI

KESRA/105/0024/2017

Declaration by Supervisors

This thesis has been submitted with our approval as University supervisors.

Signature.. Date................................

Dr. Marion Nekesa, PhD

Department of Research

Kenya School of Revenue Administration

Signature.. Date................................

Dr. Ronald Bonuke, PhD

Senior Lecturer

Moi University

DEDICATION

This research project is dedicated to my husband Philip and my son Nathaniel who challenge and inspire me to grow and be a better person. To my mother, Dolline Njeri, who has always encouraged and supported me to be the best that I can be, to my colleagues who stood with me at all times and to all my fellow students who made the journey worthwhile through their team spirit and co-operation.

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ABSTRACT

Despite the tax modernization, there are concerns that the challenges that confront the Ministry of Finance and Kenya Revenue Authority today are not much different from the challenges that faced these revenue authorities before the electronic systems as they still fall short of the revenue targets. Therefore, the purpose of carrying out this study was to examine the effect of I-Tax System, Integrated Cargo management system (ICMS) and Excise Goods Management System (EGMS) on revenue collection by Kenya Revenue Authority. In review of literature, the study was anchored on the following theories: The Unified Theory of Acceptance and use of Technology, Diffusion of Innovation Theory and Technology Acceptance Model. The methodology of the study constituted the use of explanatory research design. The population of this study was generated from Customs Services, Domestic Taxes– Large Taxpayers and Domestic Taxes-Medium & Small Taxpayers with a total population of 700 staff and sample of 254 respondents was picked using stratified random sampling. The result of Multiple Regression Analysis showed that there was positive and significant relationship between I-Tax System and revenue collection at (β_1) 0.274, t=4.348, p value <0.05). The analysis implied that a unit change in I-Tax System increases level of revenue collection by 0.274 units when holding other factors constant. The study findings also revealed that there was a positive and significant relationship between Integrated Cargo Management System and revenue collection at KRA (β_2) 0.324, t=5.625, p value <0.05). The analysis implied that a unit change in Integrated Cargo Management System increases level of revenue collection by 0.324 units when holding other factors constant. The study further showed that there was a positive and significant relationship between Excise Goods Management System and revenue collection at KRA (β) 0.321, t=5.580, p value <0.05). The analysis implied that a unit change in Excise Goods Management System increases revenue collection by 0.321 units when holding other factors constant. The study recommends that the management of Kenya Revenue Authority should ensure that adequate public awareness is done to ensure that potential tax payers all register in the I-Tax, ICMS and EGMS systems. This will ensure that revenue collection increment is realized considering all the registered tax payers can be monitored if they are fulfilling their tax obligation Therefore, studies suggest the need to a similar topic but the case of reference should be on business community or traders in particular.

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DEFINITION OF TERMS

Excisable goods management system this is an electronic system used by revenue authority bodies to manage all the excisable goods that are required by the law to be affixed with excise stamp (Barati and Bakhshayesh, 2015).

Information communication technology includes the technologies that provide easy access to information through telecommunications (Diebold, 2010).

Integrated Cargo Management System It a real time tracking of cargo from ports to final destinations through an online digital platform. (Koigi, 2017)

I-Tax System It is a web-enabled and secure application system that provides a fully-integrated and automated solution for administration of domestic taxes. (KRA, 2015).

Revenue collection: This is a financial management system that is used to measure revenue by quantifying and optimizing marketing processes and comparing estimates to targeted revenues; to gain a business/ economy's financial position. (IEA, 2017).

Tax It is a compulsory contribution by an individual to a state or government. There are various sources of tax including, income tax; value added tax, excise duty and also the customs duty. (Merriam, Webster, 1993).

ABBREVIATIONS

CBP	Customs and Border Protection
GDP	Gross Domestic Product
ICMS	Integrated Cargo Management System
KRA	Kenya Revenue Authority
RADDEx	Revenue Authorities' Digital Data Exchange
RARM	Revenue Administration Reform and Modernization Program
SMEs	Small and Medium-Sized Enterprises
TMP	Tax Modernization Program
VAT	Value Addition Tax
WBAK	Water Bottlers Association of Kenya

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter provides the details about the background to the study, the statement of the research problem, objectives of the study, null hypothesis, justification of the study, the scope of the study and the limitations of the study.

1.1 Background of the Study

Public revenue collection is an integral component of fiscal policy and administration in any economy because of its influence on national government operations and the grassroots. It is the fuel of every government as it is the main instrument through which government funding is ensured. Revenue collection should comply with best practices of equity, ability to pay, economic efficiency, convenience and certainty (Visser & Erasmus, 2005). For a government to match its performance with the needs and expectations of its citizens, it should increase its fiscal depth without incurring costly recurring overheads (Gidisu, 2012).

Kenya has undergone significant political change in the last two years, the most significant being the recent implementation of a new constitution. In this new constitution the government‟s operations are being devolved from a national management level to largely independent running County Governments, 47 in total. Each County is self-governing with some support from the national government.

From 2014, revenue collection has been done electronically in Kenya through the iTax system for Domestic taxes, ICMS system for custom taxes and EGMs for excise stamps. These systems were adopted to raise revenue collection, easen filing and

administration of taxes, and lower the costs of compliance while reducing the tax gap through minimizing cases of tax evasion and avoidance. Tax systems are considered an important part of fiscal policy and also in agreement with monetary policy (Fishbein, 2018). For a government to match its performance with the needs and expectations of its citizens, it should increase its fiscal depth without incurring costly recurring overheads (Gidisu, 2015). Tax reform is the process of changing the way taxes are collected or managed by the government which may involve the adoption of a Value Added Tax (VAT), the expansion of the VAT, the elimination of stamp and other minor duties, the simplification and broadening of corporate income or personal or asset taxes, or the revision of the tax code to enact comprehensive administration and criminal penalties for evasion (Ordanini, 2016).

1.1.1 Global Perspective

Worldwide, taxation is one of the government policy instruments used to achieve equity and efficiency in the economy (Fu, 2018). Taxation is the known practical source of public finance in many economies, besides other sources like non-tax revenue such as user-fees and licenses charged for services rendered by government department and agencies and foreign aids (Abrie & Doussy, 2015). Tax collected by governments depends on taxpayers' voluntary compliance whereby the taxpayers fulfill their tax obligation freely and completely. However, developing economies face challenges of raising sufficient tax revenue to finance the ever-increasing public expenditures due to noncompliance amongst the taxpayers (Desai, 2017).

Globally, Sahin (2017) indicated that in the United States, for example, revenue collected by the U.S. Customs Service (USCS) now the Bureau of Customs and Border Protection (CBP) was a significant source of income for the U.S. economy

before the establishment of the federal income tax system. Over time, the role of USCS expanded so that, in addition to revenue collection, it became responsible for ensuring the legitimacy, safety, and security of goods admitted into the United States. Sanford (2016) assert that currently, CBP carries out this responsibility, in conjunction with other U.S. government agencies, through its enforcement of a range of trade laws, including those concerning tariff collection, compliance with sanitary and phyto-sanitary standards, and the protection of intellectual property rights.

1.1.2 Regional Perspective

Osorio (2018) revealed that tax systems in Tanzania had a negative impact on tax revenues. Bjork (2017) evaluated Motivators, Barriers and Concerns in Adoption of Electronic Tax Filing System and noted that the systems had contributed significantly to tax revenue productivity. Milambo (2015) confirmed that electronic tax systems had improved the revenue productivity of the overall tax system in Zambia. Muriithi and Moyi (2015) applied the concepts of tax buoyancy and elasticity to determine whether the tax systems in Kenya achieved the objective of creating tax policies that made yield of individual taxes responsive to changes in national income. The results showed that tax systems had a positive impact on the overall tax structure and on individual tax handles. According to Ascher (2018) study that focused on Risk, Politics and Business Reform in Africa, particularly about inevitable modernization and reform, was required to respond appropriately to the demands for revenue optimization and enforcement of regulatory policies and practices. This was achieved through adjustment to both national and international imperatives.

In South Africa, as one of the developing countries, where goods (and people) cross borders with more frequency, and where speed to market is of utmost importance for

both supply chain participants and end consumers, customs administrations are now asked to both facilitate legitimate trade and protect borders (Al-Dmour,). However, it is often difficult for customs administrations to strike a balance between these two functions, which can often undercut one another. This is especially true when changes in political or economic circumstances require customs administrations to give immediate priority to either import security or trade facilitation (Lemuria, 2015).

1.1.3 Kenyan Perspective

A number of systems have been done to the customs taxes in Kenya. These systems can be divided into two categories. The first category is the systems that fall under Tax Modernization program (TMP) while the second category falls under Revenue Administration Reform and Modernization Program (RARMP). The TMP was mainly in the form of restrictions on duty exemptions, exports stimulation, restructuring of the structure of tariff, and reinforcement of customs duty administration (Mahadeo, 2018). Largely, the main objective of these systems was encouragement of a free market atmosphere in order to increase foreign direct investment level. According to KRA (2018), the top tariff rate during the period ranging from 1987 to 1998 was systematically lowered from 170% to 25%. Also, the rate bands were lowered from 24 percent to 5 percent (inclusive of duty free). The simple average rate declined by 24 percent due to the aforementioned changes (from 40 percent to 16 percent (Mwonge, 2016).

According to Ovvuor (2018), the tax structure is less buoyant and possibly inelastic although indirect taxes, and not direct taxes, hold the capacity to improve the flexibility of the tax system. The challenges that confront tax design include taxation of agriculture and the informal sector, repeal of tax holidays, high effective

protection, high dispersion of tariff rates, detailed and rigid custom rules, poor response of VAT to systems, weak capacity to process large volumes of returns and refunds for zero-rated transactions. In addition, Kenya's tax system is burdensome in terms of time taken to prepare and submit tax returns.

Since the inception of KRA, revenue collection has continued to grow while professionalism in revenue administration has been enhanced. However, challenges remain, inhibiting the achievement of a fully integrated and modern tax administration. The KRA Second Corporate Plan (2003/04 – 2005/06) set the stage for the Revenue Administration Reform and Modernization Programme (RARMP) to ensure that momentum was injected to consolidate the gains that had been made in tax administration (Zakaria, 2017). During the Third Corporate Plan Period (2006/07 – 2008/09), the RARMP made enormous strides in ensuring KRA transformed itself into a modern, fully integrated and client-focused organization. KRA is currently implementing the Fourth Corporate Plan (2009/10 – 2011/12). This aims to entrench the systems at the operational levels to achieve operational efficiencies and enhance service deliver (Yu, 2015).

1.1.4 Revenue Collection

Revenue collection has been defined as funds received by any organization (Gitaru, 2017). It can be defined as the mandatory tax collections that are imposed on the citizenry, in the context of KRA. This entails the collection of tax revenue from taxpayers through manual or electronic mechanisms. The sources of tax revenue are both from domestic taxes, such as Income Tax and Value Added Tax (VAT); customs e.g. import duty and excise taxes such as the sale of excise stamps. The government also collects revenue from non-tax sources such as penalties, fees and appropriations

in aid. Taxation being the largest source of revenue for the Kenyan government, it accounts for over 95% of government ordinary revenue (KRA, 2015).

The level of efficiency in revenue collection is affected by various factors, which include: taxpayer ignorance, lack of sufficient workforce to enhance compliance of the entire taxable population, communication barriers and low levels of information penetration, high levels of illiteracy among other causes. These hindrances to revenue collection result in: - indebtedness of taxpayers, high costs of collection, which includes taxpayer education, at times high risks for the tax, collecting officers, deficits in meeting of targets from treasury, which in the end leads to unavailability of funds to pay the country's debts or to finance the national budget (Wambua, 2018)

Achieving full revenue collection targets is an ultimate goal of any revenue administration. However, the practice of tax evasion and failure to comply presents a serious threat to achieving the goal of fully collecting revenue and it continues to directly deny the Government its rightful revenue. For example, failure to fully declare the revenues of given property through keeping of parallel records is stealing of Government revenue. This means that tax payers does not pay the right amount of Taxable income (Wheeler, 2018).

1.1.5 Kenya Revenue Authority

The Kenya Revenue Authority (KRA) was established by an Act of Parliament, Chapter 469 of the laws of Kenya, which became effective on 1 July 1995. The Authority is charged with collecting revenue on behalf of the Government of Kenya. A Board of Directors, consisting of both public and private sector experts, makes policy decisions to be implemented by KRA Management. The Chairman of the Board is appointed by the President of the Republic of Kenya. The Chief Executive of

the Authority is the Commissioner General, who is appointed by the Minister for Finance. (KRA Website, 2015).

Kenya Revenue Authority's core mandate is to assess, collect and enforce laws relating to revenue such as value add tax, PAYE income tax, motor vehicle import duty among others. Kenya Revenue Authority promotes compliance with Kenya's tax, trade and border legislation and regulations according to standards set out in the taxpayer's charter, maximizing revenue collection at the lowest cost. Kenya Revenue Authority settled on a mission to promote compliance with Kenya's tax, trade, and border legislation and regulation by promoting the standards set out in the Taxpayers Charter and responsible enforcement by highly motivated and professional staff thereby maximizing revenue collection at the least possible cost for the socio-economic well being of Kenyans. (KRA Website, 2015)

1.2 Problem Statement

For a long time, tax collection has been seen as a despised activity. However, levies are crucial since without them, there would be no funds to construct public infrastructure that aids businesses and the general public to be more industrious. According to Awiti (2010) "raising revenue has traditionally been high on the agenda of governments, represented by the Ministry of Finance (MOF), because of the critical importance of import duties as a source of budget revenue for many developing countries. Local authorities such as Kenya Revenue Authority are key driving forces for development. Local Authorities "provide infrastructure and services that contribute to economic development at the local level" (Awiti, 2010:). Service delivery deterioration by local authorities in Kenya is so evident and lack of financial resources is the normal excuse given by many local authorities. These financial

challenges have made it hard and impossible for KRA to realize its revenue collection targets. For example, for the financial year 2018/19, KRA collected Kshs. 1.44 trillion Falling short of the target by Ksh72.7 billion (KRA, 2019).

There are studies addressing aspects of tax revenue collection. For instance, Mwonge, (2016) study revealed the failure by the government through the KRA to meet its annual revenue targets has necessitated the need to look for avenues that will lead to an increase in revenue generated by way of taxation. Muriithi (2003) conducted a study on the local tax amendments and collection of revenue in the country and he found that the tax amendments had positively impacted the general tax structure. Kimeli (2003) on the other hand explored taxpayers" attitudes and tax compliance behavior in Kenya"s small and medium enterprises in Kerugoya and Kirinyaga. Taking into consideration that related studies highlighted above and others such as those of: Mwonge (2016), Muriithi (2003) and Kimeli (2003) have dealt with various initiatives being undertaken at KRA on tax collection and tax compliance Never the less, not much research have evaluated the tax Electronic systems in reference to I-Tax system, Integrated Cargo management system and Excise Goods Management System on revenue collection by the Kenya Revenue Authority in Nairobi Region the thus the study sought to establish the effect of adoption of electronic tax systems on revenue collection in Kenya.

1.3 General Objective

The general objective of the study was to examine Effects of adoption of electronic tax systems on revenue collection the Kenya Revenue Authority in Nairobi Region.

1.3.1 Specific Objectives

This study was guided by the following objectives;

  i.   To examine the effect of I-Tax System on revenue collection by Kenya Revenue Authority in Nairobi Region

 ii.   To establish the effect of Integrated Cargo management system on revenue collection by Kenya Revenue Authority in Nairobi region.

iii.   To determine the effect of Excise Goods Management System on revenue collection by Kenya Revenue Authority in Nairobi region.

1.4 Hypotheses

A research hypothesis is a statement which describes an unknown but a tentative answer to what a researcher considers ought to be the possible outcome of an existing problem or phenomena (Kombo & Tromp, 2006).

The null hypotheses was as follows:

H_01: I-Tax System has no significant effect on revenue collection by Kenya Revenue Authority.

H_02: Integrated Cargo management system has no significant effect on revenue collection by Kenya Revenue Authority.

H_03: Excise Goods Management System has no significant effect on revenue collection by Kenya Revenue Authority.

1.5 Significance of the Study

The study is significant to;

1.5.1 The Policy Makers

The study will aid in policy making by the government which may help improve compliance levels of tax payment by the taxpayers. This will help the government

raise more domestic revenue from tax collection which will be used in realizing the government goals. Still, the government of Kenya will find this research study useful because a collection of respondent's opinion and the researcher's recommendation will provide appropriate insights on the way forward in approaching matters that pertains to electronic tax systems.

1.5.2 The Kenya Revenue Authority

This study gives an insight to KRA to understand the challenges the taxpayers face in their quest to meet their tax obligation. This study will help KRA to come up will policies and regulations that will enhance electronic tax systems among taxpayers not only in Nairobi but all over the country.

1.5.3 The Business Traders

The business traders will have the opportunity to understand various techniques they will be expected to follow while fulfilling the electronic tax systems requirements being enforced by the State. The information therefore will create a basis for the traders to find the reasons as to why they are required to willingly comply with tax requirements.

1.5.4 Other Researchers

This research study will be considered useful by other researchers to understand the basis of improving their approach to undertaking varied research studies. The study findings will also act as reference material for future research in relation to electronic tax systems among the business owners.

1.6 Scope of the Study

The purpose of the study was to investigate the Effects of adoption of electronic tax systems on revenue collection by KRA in Nairobi Region. The study was based at Kenya Revenue Authority situated along Haille Sallasie Avenue in Nairobi City County. The study focused on KRA because it's the organization that uses these systems. The subject of specific focus was on I-Tax System, Integrated Cargo management system and Excise Goods Management System. The target population constituted the staff of KRA who responded to issues of tax systems and revenues. The study was undertaken within a period of 2 months from September 2020 to October 2020.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the reviewed literature theoretically and empirical review in line with the study objectives as follows. I-Tax System on revenue collection, Integrated Cargo management system on revenue collection and Excise Goods Management System on revenue collection. Additionally, the chapter presents critique of existing literature, conceptual frameworks that will guide the study.

2.2 The concept of Revenue Collection

The collection of taxes and fees is a fundamental way for countries to generate public revenues that make it possible to finance investments infrastructure, human capital and the provision of services for businesses and its citizens. Mugo (2011) identified that effective integration of information communication technology with revenue collection functions is a major problem hindering most entities from expanding their revenue collection activities.

Electronic Revenue Collection System (ERCS) is a comprehensive solution for the electronic collection of government fees, taxes and custom duties (Agbeyegbe, Terence, Stotsky & WoldeMariam, 2004). This method serves as a means to achieve a cashless environment via the introduction of virtual funds and automates all revenue collection processes, allowing government agencies to exploit the full capabilities of the technology to transform its services to the public. ERC system provides various electronic methods that enable the government to collect all revenues related to the government services, customs and taxes and so forth.

Zhou (2013) carried out a study on systems, processes and challenges of public revenue Collection in Zimbabwe. Research findings indicated that the revenue collection sector has over the decades gone through milestone reforms, notable ones being the establishment of a sole national revenue authority in 2001, the shifting from cumbersome Income Tax Return Forms to Final Deduction Systems, the adoption of VAT in 2004 and Toll Gate systems in 2009. Mohammed and Muturi (2018) study conducted in Kisii County, Kenya indicated that competence measures are used to improve the accountability of revenue. Kayaga (2010) in her study of tax policy challenges in Uganda as one of developing countries opined that, new technology alone is not sufficient if the government does not recognize the need for skilled tax officials. The scholar further avers that, effective tax administration requires qualified tax personnel with requisite skills to maintain these systems and operate them to their full potential.

2.3 Theoretical Review

The study is anchored on the following theories; The Unified Theory of Acceptance and use of Technology, Diffusion of Innovation Theory and Optimal Taxation Theory.

2.3.1 Optimal Theory of Taxation

The theory of optimal taxation was developed by Ramsey in 1927 through an article "A Contribution to the Theory of Taxation". The theory was among the first to focus on revenue collection and growth from an economic stand point. Optimal taxation theory is concerned with the designing and implementation of a tax system that reduces inefficiency and market distortion. The theory acknowledges that inequality

will always exist in markets but any tax system must strive to eliminate inefficiencies as much as possible.

Optimal tax theory is based on three principles that govern its framework. The first principle is that tax system should set encompasses a range of models that that eliminates in-efficiencies. A major aim of the EGMS system introduced in 2013 was to reduce inefficiencies relating to excise duty system highlighting the significance of this theory. The second principle argues that based on model of taxation, tax payers will respond to their tax obligation and the third principle states that the government should evaluate regularly the tax policies. In the study context, the theory is suitable to understand how the excise duty 2013 and revised excise duty 2015 have impacted on the excise duty revenue collection. This is because the government goal is to reduce tax inefficiencies and increase revenue collection. The theory will be central in understanding the contribution of EGMS on revenue performance at Kenya revenue authority.

2.3.2 Diffusion of Innovation Theory

This theory which seeks to describe the patterns of adoption of technology, explaining the mechanism of the adoption and further predicting whether and how a new invention or innovation was successful, was advanced by Everett Rogers in 1962. The DoI theory proposes that technological innovation is communicated through particular channels, over time, among the members of a social system. Based on this definition, using online filing technology is a fairly new practice in Kenya and can be seen as an innovation for each individual internet user (Bashein, 2015).

The stage through which a technological innovation passes involves steps which typically follow each other in a time-ordered manner. The stages are: Knowledge: An

individual learns of the existence of the innovation, understands its functioning and seeks information on how to use it correctly. Persuasion: This is the forming of a favorable attitude to the technology/innovation after the knowledge stage in the innovation -decision process. Decision: At this stage, the individual chooses to adopt or reject the innovation. Rogers defines adoption as 'full use of the innovation as the best course of action available' and rejection means not using the innovation. Innovation decisions may be optional where the person or organization has a real opportunity to adopt or reject the idea), collective where a decision is reached by consensus among the members of a system, or authority-based where a decision is imposed by another person or organization which possesses requisite power, status or technical expertise (Twinomujuni, 2016).

The proponent of the Diffusion of Innovation Theory argues that Adoption of a new technology, behavior, or product does not happen simultaneously in a social system; rather it is a process whereby some people are more apt to adopt the innovation than others. Therefore, people who adopt an innovation early have different characteristics than people who adopt an innovation later. When promoting an innovation to a target market, it is important to understand the characteristics of the target market that will help or hinder adoption of the enhanced technology systems needed to improve collection of revenues (DeYoung & Rice, 2017),

This theory is useful in to this research since it lays out the manner in which new technological tax systems of revenue collection is spread. Innovation of new technological tax systems will therefore, spread if end users got to know about it and are persuaded that it is good, if taxpayers decide to adopt and implement it and if others confirmed it as a good choice. Failure at any stage may hinder the spread of the

innovated new technological tax systems resulting to a positive or negative revenue collection.

2.3.3 Technology of Acceptance Model

The technology acceptance model (TAM) states that technological innovation adoption is dependent on the perceived usefulness (PU) and the perceived ease of use (PEU) of the technology (Davis, 1989). The model has two approaches. Perceived usefulness is the expectation of users' that adoption of a new technology could lead into improvement of work performance, while perceived ease of use is the degree to which an individual expects that it would be free of effort to use a particular system. Thus, this model suggests that both perceived usefulness and perceived ease of use affects the usage of an innovation, which forms the basis of relevance for innovation adoption behaviors (Lee, Hsieh & Hsu, 2011).

The premise of e-taxation is that people fully trust the governmental organization and that they highly identify with information technology. As the result, scholars find TAM is not only great for applying to examine new information technology accept intention or behavior but further ensures the explanation of online user behavior issues (Liu C.Arnett KP, 2000)

When taxpayers understand or learn the electronic systems for e-tax filing, quick filing accuracy and efficiency will be realized. Taxpayers can complete tax filing quicker (perceived usefulness) when they perceive the ease of use of the system is higher. Hence, perceived ease of use is the determinant of perceived usefulness. Moreover, taxpayers are able to complete the declaring their taxes easier if the government provides a more user-friendly on-line tax platfrom (simple operation, easy-to-understand interface, and check the tax exemptions automatically)

(Ramayah et al., 2009). The possibility of using Itax, ICMS and EGMS will be increased at the same time. Thus, this paper infers that higher perceived ease of use will produce perceived behavioral control and besides, taxpayers will know the advantages of the system only if it is easy to operate (Warkentin et al., 2002). They will also have a positive attitude toward the system. When taxpayers perceive that the system is easy to operate, they will have more positive attitude towards, lead to more declaration of taxes, payment and hence increased revenue collection.

2.4 Empirical Review

Empirical studies are researching that derive their data by means of direct observation or experiment to answer a question or hypothesis (Sekaran, 2018). The study has to put forward different perspectives and views of functionalists and positivists, in order to compare or argue his/her perspective in relation to the topic of study. Sufficient background information should be presented for readers to understand and evaluate the results of the present study.

2.4.1 I-Tax System and Revenue Collection

An online or electronic filing system can be defined as one that enables taxpayers to register and submit their tax returns over the Internet. The system could have inbuilt software that has been pre-approved by the relevant tax authority to assist the taxpayers in calculating and consequently submit the correct amount of tax due. The benefits of I-Tax filing over submitting manual returns to the tax office are that the return goes directly to the revenue authority's systems with a greatly reduced chance of human keying or document scanning errors (Mwonge, 2016).

I-TAX filing is also environmentally friendly as there is less paper used. With the rapid advancement in information and communication technology that the world

continues to experience, the operation of the tax collection and administration system continues to be a challenge for many authorities. Tax authorities are being challenged to maintain a modernized and responsive tax administration system so as to facilitate faster collection of taxes which is user friendly and also cost effective (Moyi & Ronge, 2016). Boone (2015) assert that an I-Tax filing system integrates the processes of registration, tax preparation, tax filing and tax payment. Taxpayers therefore avoid the hassles of visiting the tax office and making long queues, the returns are filed at their convenience. It is in this regard that several tax authorities have embraced the change and adopted an I-Tax filing approach.

Taxation is a means by which government finances their expenditure by imposing charges on businesses, citizens and corporate entities. Taxation remains to be the main source of government revenue in both developed and developing economies (Bandura, 2016). However, Ramsey (2015) assert that one of the biggest threats to this method of financing governments is tax avoidance and evasion. Developing economies are worst affected by this challenge. While Developing countries record relatively higher tax levels (35%), African countries report less than 23%. Globally, in 2006, the Inland Revenue Board Malaysia (IRBM) streamlined the tax administration policies to embrace an I-Tax filing system. With the I-Tax filing system, Malaysian taxpayers and tax agents can file their income tax returns electronically via the enabling Internet technologies, rather than through mail or physical visits to the tax office, thus simplifying the process of making returns for the taxpayer

In its first year of implementation of I-Tax filing system for individual taxpayers, in spite of the extension of the tax filing deadline by one month and a promise to get faster tax refund for e-filers; just more than 120,000 out of 4 million individual

taxpayers opted to use I-Tax filing; which represented only 3% of the total individual taxpayers (Al-Dmour, 2016). Factors attributed to this include taxpayers' discomfort about I-Tax filing technology and the perceived insecurity of I-Tax filing in addition to lack of internet self-efficacy and skills. The the number of taxpayers using I-Tax filing has increased gradually from 538,558 in 2007 to 881,387in 2008. Most recently, the Malaysian Inland Revenue Board has been streamlining the tax administrative policies to embrace an I-Tax filing system (Abrie and Doussy, 2015).

The tax collection through I-Tax is considered the means to collecting revenue for developing and building the GDP. Thus, taxation is the single largest source of government budgetary resources. Between 1995 and 2004, tax revenue constituted 80.4% of total government revenue (including grants). Relatively, the importance of non-tax revenue is also significant in sustaining the public budget, although its importance is much less than the role of taxation given that it's share over the same period was 15.1%. Foreign grants play a minimal role as they have averaged only 4.5%. Given its central role, taxation has been applied to meet two objectives (Fishbein, 2018).

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Analysis, Myra Ochwo, Countrywide, taxpayers have embraced the e-Tax system and to date over 130,000 electronic Taxpayer Identification Numbers (TINs) have been issued (Mwonge, 2016). Most modern I-Tax and customs administrations rely on people willingly and voluntarily doing the right thing. Unfortunately in Africa, the vast majority of citizens both individual and corporate are not law-abiding and do not share a sense of responsibility to actively participate in building the country through making their fair tax contribution.

Adoption of I-Tax is a worldwide worry since most countries would like to fund their recurrent expenditure through mobilization of domestic revenue. In Kenya, KRA has sought to boost adoption of I-Tax payment by introduction of sanctions such as electronic monitoring, audits, compliance checks, investigations and shutting of non-compliant taxpayers' businesses, heavy penalties and prosecution of tax evaders (Bashein, 2007). There is also a whistle blower's reward to those who volunteer information that leads to recover of taxes. This sanctions and the reward has helped in improvising the general level of complying to electronic tax systems. While there is an increase in collection figures and compliance, the electronic tax ratio on rental income is still below the global average of 20% and the sub Saharan average of 18% (Kangave, 2015).

The tax collection through I-Tax is considered the means to collecting revenue for developing and building the GDP. Thus, taxation is the single largest source of government budgetary resources. Between 1995 and 2004, tax revenue constituted 80.4% of total government revenue (including grants). Relatively, the importance of non-tax revenue is also significant in sustaining the public budget, although its importance is much less than the role of taxation given that it's share over the same

period was 15.1%. Foreign grants play a minimal role as they have averaged only 4.5%. Given its central role, taxation has been applied to meet two objectives (Fu, 2018).

2.4.2 Integrated Cargo Management System and Revenue Collection

The Integrated Cargo management system is a real time tracking of cargo from ports to final destinations through an online digital platform. Kenya Revenue Authority's decision to implement a cargo tracking and security system was a response to the government's interest in improving tax collection, enhancing enforcement of cargo handling regulations and maintaining Kenya as a preferred trade route for cargo in East Africa (Mutongi and Kenda, 2018). These initiatives as indicated by Ramsey (2015) are critical to the support national initiatives aimed at promoting trade within the region. Its precursor, the electronic cargo tracking system which was managed by the private vendors did not achieve the desired outcome and was faced out.

Since the commissioning of the cargo management system, there has been a significant improvement in the transit time from 11 days to 4 days and drastic reduction in dumping cases which result in major losses in the duty and tax. Traders have also benefitted immensely from this system since it facilitates real time responses from the customs department and other authorities in the event of attempted highway theft and even in the event of accidents. Such prompt actions have helped in securing goods in the transit while helping save lives. The system is supported by rapid response units strategically along the transit route (Wang, 2017).

Karingi and Wanjala, (2015) who studied Tax Reform Experience in Kenya found that the border posts themselves, Electronic systems are received with varying degrees of enthusiasm. In Kenya, clearing agents are distinctly unhappy about the

move to the ICMS. They claim to have received very little opportunity to train on the new system and there is a reluctance to embrace an innovation which they believe is intended make them redundant. Small-traders dealing in goods worth less than $2,000 have been permitted to make a simplified declaration at the desk of the Uganda Revenue Authority (URA).

The ICMS is a robust intelligence system that consolidates all customs cargo clearance processes to one point of access to improve customer experience. They are under pressure to deliver customer-focused services, collect accurate revenues and prevent illegal trade within the constraints of limited resources. This call for modernization of customs administration to deliver agility, accuracy, security, and transparency using systems that is empowering rather than restrictive. It is for this reason that the Kenya Revenue Authority (KRA) is implementing the Integrated Customs Management System (ICMS). This system consolidates all the existing customs systems into one modern, robust and more efficient system built on the latest technology with capability of seamlessly interfacing with other internal and external systems as need arises (Wheeler, 2018).

Manual customs clearance of goods through customers is a lengthy and costly process that documents have to exchange hands manually between different organizations and agencies. Due to lack of coordination between the agencies and organizations, this resulted in longer periods taken to clear cargo at the various terminals within the border points (Wambua, 2018). According to KRA, it was not an easy task tracking down where the problems were and who was accountable for the delays if a manual system is used. The manual process and decision-making process between agencies is bureaucratic which resulted in difficulty in the monitoring process and the procedures

to be followed. With the introduction of new technologies and modernization of customs administration procedures by use of Integrated Cargo Management System in Kenya has led to reduced 60% costs of importing and exporting goods while improving customs efficiency, transparency and risk management (KRA, 2016).

Macharia (2018) highlighted that there was also introduction of online monitoring of cargo by use of the Electronic Cargo Tracking System which tracks and monitors cargo from port and all the way to the destination neighboring countries. In addition, communication between the East Africa Region were improved by the introduction of the Revenue Authorities' Digital Data Exchange (RADDEx). According to Ordanini (2016), Kenya Revenue Authority is banking on new-modern scanners at the port of Mombasa and a heightened collaboration with other global entities to curtail illicit trade through the port of Mombasa. This is in a renewed effort to curb tax cheats and increase its import duty collections, which have been hampered by mis-declaration and concealment of cargo on imported containerized goods.

2.4.3 Excise Goods Management System and Revenue Collection

Kenya Revenue Authority (KRA) has embarked on a countrywide Public Participation excise targeting Manufacturers of Non-Alcoholic drinks and the Public on the implementation of the second Phase of Excisable Goods Management System (EGMS). The purpose of this excise is to gather views and receive feedback from key stakeholders on various issues regarding implementation of EGMS (Macharia, 2018).

Macharia (2018) further noted that as a matter of principle and in compliance with constitutional requirements, KRA engages the taxpayers and members of the public before implementation of Policies, Laws and Systems. To this end, the Authority has carried out various consultative forums with the registered taxpayers and general

public in relation to implementation of the EGMS; The feedback from such forums were extensively evaluated and may be considered into the implementation of the programme. KRA has had special engagements with Kenya Association of Manufacturers (KAM), Water Bottlers Association of Kenya (WBAK) and other key representative organizations.

KRA has also been engaged by Parliament through the Public Investments Committee (PIC), which has reviewed the programme and made recommendations for further policy enhancements, clearing the system for implementation. Parliament observed that the procurement process complied with the requirements of the Public Procurement and Disposal Act, as read together with the regulations (Wambua, 2018).

Khayesi (2019) indicated that KRA has concluded installation of the EGMS in 42 out of 46 automated water and juice production lines. Alternative arrangements have been provided for manufacturers with manual production lines. EGMS is designed to have minimum impact to the efficiency of manufacturers' production lines. To this end, EGMS operates at speeds that are at least 2.5 times faster than the highest installed production speed in the country. Wheeler (2018) further established that EGMS has redundancies that allow production to continue in the case of lack of connectivity to KRA. The Authority provides round the clock technical support service framework to ensure limited interruptions. KRA will continue to engage key stakeholders and individual taxpayers on the implementation of the system before the roll out. Excise Goods Management System is ongoing and any feedback obtained may be considered to enhance it and implementation arrangements.

Ordanini (2016) indicated that the Regulations have introduced Excise stamp fees to be charged on excise stamps for different types of excisable goods. The excise stamp

fees shall be paid to the Commissioner of Revenue by the manufacturers and importers of excisable good based on quantity of stamps issued to them. A manufacturer or importer of excisable goods is required to apply to the Commissioner for excise stamps in a prescribed form at least sixty days before the manufacture or importation of the excisable goods. Nyamunga (2017) assert that payment of the excise stamp fees by a manufacturer or importer of excisable goods shall be made after the Commissioner approval of the application. However, the Commissioner may impose, issue excise stamps to an importer of excisable goods before importation. Proof of importation by an importer of excisable goods may be required by the Commissioner before issuing the importer with the excise stamps.

Waweru (2015) indicated that excise stamps on imported excisable goods to be affixed at the production facility in the exporting country may be allowed in accordance with such conditions as the Commissioner might specify. In addition, the Commissioner can upon the application by the manufacturer or importer, permit digital stamps to be printed by the System on each package and in a visible place with indelible security ink to enable the authentication of, tracking and tracing of, and production accounting for excisable goods. The commissioner is required to prescribe the procedure and conditions for transfer and accounting of the excise stamps.

The KRA further urged the traders to ensure that any remaining stock under the stated deadline was affixed with excise stamps. The distributors and retailers will also be required to offer for sale goods on a First In, First Out basis to ensure exhaustion of these stocks where manufacturers and importers shall only deliver stamped products for resale or consumption. The move is aimed at improving tax collections as well as enhancing safety standards by deterring counterfeits in country (Nyamunga, 2017).

2.5 Critique of the Study

Karingi and Wanjala, (2015) who studied Tax Reform Experience in Kenya found that the border posts themselves, electronic systems are received with varying degrees of enthusiasm. In Kenya, clearing agents are distinctly unhappy about the move to the ICMS. They claim to have received very little opportunity to train on the new system and there is a reluctance to embrace an innovation which they believe is intended make them redundant. Small-traders dealing in goods worth less than $2,000 have been permitted to make a simplified declaration at the desk of the Uganda Revenue Authority (URA). But now everyone was able to make an online declaration directly without passing through a clearing agent.

Khayesi (2018) focused on determinants of user acceptance of e-government services and found that for scanners, in order to achieve these reforms, the administrative capacity of the tax system had to be strengthened. The measures undertaken towards this end include the re-introduction of the selective examination/rapid release system and the re-establishment of the intelligence and investigation functions. The other important Electronic systems is non-intrusive methods of cargo verification by use of X-ray scanners and use of sniffer dogs (K9).

Awitta (2018) highlighted that there was also introduction of online monitoring of cargo by use of the Electronic Cargo Tracking System which tracks and monitors cargo from port and all the way to the destination neighboring countries. In addition, communication between the East Africa Region was improved by the introduction of Revenue through the Revenue Authorities' Digital Data Exchange (RADDEx). Then Kenya Revenue Authority is banking on new-modern scanners at the port of Mombasa and a heightened collaboration with other global entities to curtail illicit

trade through the port of Mombasa. This is in a renewed effort to curb tax cheats and increase its import duty collections, which have been hampered by mis-declaration and concealment of cargo on imported containerized goods

2.6 Research Gaps

There are studies addressing aspects of tax. Karingi and Wanjala (2015) who focused on tax Reform Experience in Kenya revealed that failure by the government through the Kenya Revenue Authority (KRA) to meet its annual revenue targets has necessitated the need to look for avenues that will lead to an increase in revenue generated by way of taxation. Nyamunga (2017) addressed assessing taxation in Kenya found that despite the measures taken by KRA to improve its revenue collections such as the introduction of electronic systems and modernization programs, the authority has been falling short of its revenue targets. While Okech and Mburu (2016) focused on the analysis of responsiveness of tax revenue to changes in national income in Kenya and found that in spite of efforts by the Government of Kenya there are still a myriad of problems militating against effective and efficient tax system in Kenya and hence affecting the tax revenue collected by the Kenya government. However, as much as these studied motioned have addressed the aspects of tax, there were no specific studies that specifically focused on the tax systems in reference to I-Tax, Integrated Cargo management system and Excise Goods Management System effects on revenue collection by the Kenya Revenue Authority, this has resulted in a research gap that this study seeks to address.

2.7 Summary of the Chapter

This chapter has discussed the theories that are related to the study variables and has theoretical empirical literature, highlights research gaps that needs to be filled and

then exhibits conceptual framework designed. Independent factors are; I-Tax System, Cargo Management system and Excise Goods Management Systems. The dependent variable is Revenue Collection. The study has selected the past activities that fall within the objectives of the study; that gives a clear account of all past theoretical undertakings that are related to the study. The literature sets out to explore and analyze study variables and it is aimed at providing a theoretical and conceptual basing from which a methodology for research was developed.

2.8 Conceptual Framework

A study by Kothari (2004), explains that provides a visual explanation on the relationship between study variables. For this study the conceptual framework in figure 2.1 includes independent variables(Electronic tax system) which was by measured I-tax system, Cargo management system, Excise goods management system and dependent variable(Tax revenue collection) was measured by volume of revenue collected Number of taxpayers registered, Filing and payment compliance   rates

Dependent Variable   **Independent Variables**

I-Tax System

- Number of taxpayers registered
- Returns filed on time
- Frequency of queries and ammendments

Cargo Management System

- Border management
- Motor vehicle transit management
- Length of transit time
- Real time Response rate

Revenue Collection
- Growth of revenue collected
- Meeting targets
- Filing and payment compliance   rates

Excise Goods Management

Systems

-Frequency of consultative forums
-No of excise stamps issued
-Frequency of manufacturer's disruptions

Figure 2.1 : Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter constitutes the research instruments, which were used in the study. This included research design, the target population, sampling method, procedure of data collection and data analysis.

3.1 Research Design

Explanatory research was conducted in order to identify the extent and nature of cause-and-effect relationships. Causal research can be conducted in order to assess impacts of specific changes on existing norms, various processes (Bray & Maxwell, 2015. For this research, the study sought to establish the Effects of adoption of electronic tax systems on revenue collection by KRA in Nairobi Region.

Causal studies focus on an analysis of a situation or a specific problem to explain the patterns of relationships between variables. Experiments are the most popular primary data collection methods in studies with causal research design (Glass & Hopkins, (2018). According to Trochim (2016), the presence of cause-and-effect relationships can be confirmed only if specific causal evidence exists. Causal evidence has three important components: Temporal sequence being the cause that must occur before the effect. There is also concomitant variation where the variation must be systematic between the two variables and lastly Nonspurious association where any covarioaton between a cause and an effect must be true and not simply due to other variable. In other words, there should be no a 'third' factor that relates to both, cause, as well as, effect.

The main goal of this type of research is to describe the data and characteristics about what is being studied. The idea behind this type of research is to study frequencies, averages, and other statistical calculations regarding the Effects of adoption of electronic tax systems on revenue collection by KRA in Nairobi region.

3.2 Target Population

The target population as defined by Williamson (2015) is the totality of elements that had one or more characteristics in common while Mugenda and Mugenda (2008) states that a research population is also known as a well-defined collection of individuals or objects known to have similar characteristic. Therefore, all individuals or objects within a certain population usually have a common, binding characteristic or trait. The study targeted 700 employees working within various departments of Kenya Revenue Authority, Nairobi. The staff were sourced from departments such as Custom and Excise and the Domestic Taxes Departments.

Table 3.1: Target Population

Department	Target Population
Customs Department	255
Domestic Taxes–Large Taxpayers	200
Domestic Taxes-Medium & Small Taxpayers	245
Total	**700**

Source: (Kenya Revenue Authority, 2020)

3.3 Sampling Technique and Sample size

Stratified random sampling was employed to stratify the sample of participants into departments. Proportionate random sampling was finally used to select the respondents. Stratified sampling design. It is defined by Peil (2015) as a probability

sampling technique wherein the researcher divides the entire population into different subgroups or strata, then randomly selects the final subjects proportionally from the different strata. In statistical analysis, when subpopulations within an overall population vary, it is advantageous to sample each subpopulation (stratum) independently. While Holborn and Langley (2018) says stratification is therefore, the process of dividing members of the population into homogeneous subgroups before sampling, the strata should be mutually exclusive: every element in the population must be assigned to only one stratum, the strata should also be collectively exhaustive: no population element can be excluded and then the simple random sampling or systematic sampling is applied within each stratum. This often improves the representativeness of the sample by reducing sampling error.

Mugenda (2008) points out that stratified random sampling method ensures inclusion of all population. Here, the design was used as it identifies sub-groups in the population and selects form each of the sub-groups to form a sample. Selection of respondents from the sup-groups to form sample size was through simple random sampling. The sample size was calculated by the formula advanced by Yamane (1967).

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n= sample size

N = Target population

e= level of significance (5%)

Therefore;

$$n = \frac{700}{1 + 700(0.05)^2}$$

$n = 254$

Table 3.2: Sample Size

Item	Target Population	Proportion of sample size	Sample size
Customs Department	255	0.364	93
Domestic Taxes–Large Taxpayers	200	0.285	72
Domestic Taxes- Medium & Small Taxpayers	245	0.35	89
Total	**700**		**254**

3.4 Data Collection Procedure

The study collected data by use of primary data sources. For the primary data, the study used questionnaires. The questionnaire is defined by Glen (2017) as any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers. Questionnaires was used because as explained by Lyon (2018) they were used to collect data about phenomena that is not directly observable such as; inner experiences, opinions, values, interests. They are more convenient to use than direct observation when used for collecting data. Cohen (2015) provided advantages of using questionnaires are as follows: can be given to large groups, respondents can complete the questionnaire at their own convenience, answer questions out of order,

skip questions, take several sessions to answer the questions, and write in comments. The cost and time to be involved in using questionnaires is less than with interviews. Questionnaire was developed and distributed to the respondents at KRA Office, Nairobi, this was undertaken by the basic approach of hand delivery. A period of three days was allowed for the respondents to respond to the questionnaires which was later collected back for analysis. Closed ended questions was adopted which usually suggests the answers to solicit the most relevant information.

3.5 Pilot Testing Results

The study determined the authenticity of the questionnaires by carrying out reliability and validity tests.

3.5.1 Reliability of Research Instruments

The study used Cronbach's Alpha to undertake a reliability test to confirm internal consistency of items. According to Cooper and Schindler (2013) expressed that Cronbach Alpha determines a range that is between 0-1, as a result when the Cronbach Alpha has a score ranging 0-0.6 it is an indication that the reliability of the instrument is low however, a score of 0.7 and over is an expression that the internal consistency and reliability is high.

Table 3.3 : Reliability Results

Variable	Cronbach's Alpha	Number of Items
Revenue collection	0.984	5
I tax system	0.987	5
Integrated Cargo Management System	0.990	5
Exercise Goods Management System	0.988	5

Source: Research Data, (2020)

Table 4.2 comprised of a summary on reliability test using reliability Cronbach Alpha. The summary showed that for revenue collection, it was established that there was an internal consistency of 0.984 while had internal consistency of 0.984 while the test on I tax system showed an internal consistency totaling to 0.987. In integrated Cargo management System, the consistency measure was 0.990 lastly on Exercise Goods Management System, there was an internal consistency of 0.988. Based all these variables the Alpha value based on the internal consistency measurement was over 0.7.The findings confirmed that all variables were reliable because they were found to be over threshold of 0.7.

3.5.2 Validity of Research Instruments

According to Mugenda and Mugenda (2008), validity is the extent to which results realized from the analysis of primary data collected in a research truly represents the phenomenon under study. Validity according to Veal and Darcy (2017) is the degree to which information collected by the researcher actually depicts the phenomenon being studied. The questionnaires were subjected to content validity test by a few KRA respondents and the research assistant. This entailed a pre-test of its content, wording, sequence, form and layout, relevance and ease of questions and instructions. The respondent's remarks were noted and respective adjustments effected.

3.6 Diagnostic Tests

In scientific research, diagnostic tests are usually carried out to empirically determine the quantitative effect of study design shortcomings of more quantitative loading of diagnostic accuracy (Lijmer *et al.,* 1999). In this study, three diagnostic tests were done before data analysis to authenticate the research findings. The tests included Multicollinearity test, In order to test for multicollinearity, variance inflation factor (VIF) was computed using statistical packages for social science (SPSS).Linearity test

for visual inspection of the P-P plot to check on linear relationship between the dependent and the independent variables. Normality which used Shapiro-Wilk tests to check for normality,

3.7 Data Analysis and Presentation

The data analysis procedure is well defined by Kothari (2018) a process of packaging the collected information putting them in order and structuring its main components in a way that the findings can be easily and effectively communicated. After all the necessary data had been collected, editing, coding and tabulation was carried out.

The study data was analyzed by adopting descriptive and inferential statistics. Descriptive statistics comprises of mean and frequency of SD. Inferential statistics comprises of correlations, ANOVA and regression. The study adopted the following regression model as indicated below;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + E$$

Where: **Y** is the dependent variable (Revenue Collection),

β_0 is the regression coefficient/constant/Y-intercept,

β_1, β_2, and β_3, are the slopes of the regression equation,

X_1 is I-Tax System

X_2 is Integrated Cargo management system

X_3 is Excise Goods Management System

E is an error term normally distributed about a mean of 0 and for purpose of computation, the E is assumed to be 0.

The first step in data analysis is to describe and summarize the data in descriptive statistics. The purpose of descriptive statistics is to enable the study to be meaningful, by describing a distribution of score or measurements using a few indices or statistics.

The data is then represented in a frequency distribution table; data was presented using tables and figures such as charts.

3.8 Operationalization of study variables

The following table gives an outline of the dependent and independent variables and how they were measured and reviewed I-Tax system, integrated cargo management system, Excise goods management system were operationalized using Tax revenue collection

Table 3.4: Operationalization of Study Variables

Variables	Source/Authors	Data collection instrument	Measurement scale	Types of Analysis
Independent variable I-Tax system	Kenya Revenue Authority (2003)	Questionnaire	5 point likert scale	Quantitative
Integrated cargo management system	Ramsey (2015)	Questionnaire	5 point likert scale	Quantitative
Excise goods management system	Macharia (2018)	Questionnaire	5 point likert scale	Quantitative
Dependent Variable Tax revenue collection	(KRA, 2015).	Questionnaire	5 point likert scale	Quantitative

3.9 Ethical Issues

Ethical Issues are norms governing human conduct which have a significant impact on human welfare. It involves making a judgment about right and wrong behavior (Kumar, 2011). The researcher approached the respondents with an introduction letter

from the school. The nature of information required for this study was sensitive, thus the researcher treated all information with utmost confidentiality and used it solely for this study. There was need to strive and ensure honesty in analyzing and reporting the data that was collected and all major statements in the study was cited to avoid plagiarism.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.0 Introduction

This chapter constitutes data analysis, presentation of findings that were collected, interpretation of the analyzed data and the findings on Effects of adoption of electronic tax systems on revenue collection by Kenya Revenue Authority in Nairobi Region. More specifically, the study sought to examine the effect of I-Tax System on revenue collection by KRA in Nairobi Region, to establish the effect of Integrated Cargo management system on revenue collection by Kenya Revenue Authority and to determine the effect of Excise Goods Management System on revenue collection by Kenya Revenue Authority.

The specific objectives informed three null hypotheses that the study set out to test: I-Tax System has no significant effect on revenue collection by Kenya Revenue Authority (H_{01}); Integrated Cargo management system has no significant effect on revenue collection by Kenya Revenue Authority (H_{02}); and that of Excise Goods Management System has no significant effect on revenue collection by Kenya Revenue Authority (H_{03}). Data analysis was conducted through both descriptive and inferential statistics. Whereas the descriptive statistics build the case for the main project of the study, the inferential statistics present the main project by testing the foregoing set hypotheses.

4.1 Response Rate

Response rate shows the number of distributed questionnaires, returned and non-returned questionnaires. As summarized on the table 4.1, a total of 254 questionnaires were distributed to the respondents out of those questionnaires, 200 were answered well and returned equivalent to 79% while 54 questionnaires were not returned and

they were equivalent to 21%. According to Mugenda and Mugenda (2008), a response rate of 50% is adequate for analysis and reporting, a response rate 60% is good and a response rate of 70% and over is excellent. From this study, having 79% as a response rate was considered excellent for the study.

Table 4.1: Response Rate

Category	Frequency	Percentage
Response	200	79
Non Response	54	21
Total	**254**	**100**

Source: Research Data (2020)

4.2 Demographic Information

The study provided the summary information about the respondents who participated in the study. The information was based on their gender, highest education level and their work experience in the organization.

4.2.1 Gender

The gender response addressed the male and female respondents in this study.

Table 4.2: Gender of Respondents

Gender		Percent
	Male	58.0
Valid	Female	42.0
	Total	**100.0**

Source: Research Data, (2020)

The study findings on table 4.2 shows that male respondents were 58% whereas female respondents were 42%. Going by the balanced responses, the study confirms that there was fair participation of both gender in this study.

4.2.2 Highest Level of Education

The study summary on table 4.3 was based on education level of all respondents.

Table 4.3: Highest Level of Education

Category		Percent	Valid Percent	Cumulative Percent
	Postgraduate degree	14.5	14.5	14.5
Valid	University degree	23.6	23.6	38.2
	College diploma	61.8	61.8	100.0
	Total	**100.0**	**100.0**	

Source: Research Data, (2020)

The presentation of findings on table 4.3 was drawn from a study addressing the highest education level of respondents in the study. It was noted that 14% of respondents had had postgraduate degree, while 24% had university degree and 62% had college diploma. This study indicated that college graduates and degree graduates had dominated this study; implying that the staff were having adequate knowledge on revenue collection.

4.2.3 Work Experience of Respondents

The presentation of findings was about work experience of employees, the duration at work place helps determine the level of information that employees have about the topic of research being addressed.

Table 4.4: Work Experience of Respondents

Category	Percent	Valid Percent	Cumulative Percent
less than 1 year	12.7	12.7	12.7
1-4 years	14.5	14.5	27.3
5-7 years	40.0	40.0	67.3
8-10 years	20.0	20.0	87.3
11 years and over	12.7	12.7	100.0
Total	**100.0**	**100.0**	

Source: Research Data, (2020)

The study provided a summary of data on table 4.4 which showed the work experience of respondents. It was noted that 12.7% of respondents had a worked for a period less than 1 year, a total of 14.5% of respondents had worked for a period between 1-4 years whereas 40% had worked for a period between 5-7 years, a total of 20.0% of respondents in this study had a working experience that was over 8-10 years and lastly 12%.7 had over 11 years work experience. From the above, majority of respondents had a work experience of 7-10 years it was expected that they had gathered more experience based on revenue collection.

4.3 Descriptive Statistics

The study analyzed the following variables that formed the part of objectives of the study as follows; I-Tax System, Integrated Cargo Management System and Excise Goods Management System.

4.3.1 I-Tax System

The study addressed the subject of I-Tax System and its effect on revenue collection using Likert scale that was ranging from 1=strongly disagree, 2= disagree, 3= neutral, 4= agree and 5 for strongly agree. The findings were shown on the table 4.5.

Table 4.5 : I-Tax System

Statement	N	Mean	Std. Deviation
Returns filling through iTAX has improved	200	3.872	1.24803
There has been timely filing of returns since inception of I-Tax		4.054	1.23855
I-Tax has created a friendly environment for taxpayer filing their returns and making queries.		4.109	1.03051
The use of online registration promotes individual and non-individual to make amendments to any personal details		4.109	1.13321
I-Tax system has resulted into increased number of taxpayers		3.854	1.07872
Composite Mean		**3.991**	**1.145**

Source: Research Data, (2020)

The presentation of findings as shown on table 4.5. The study found Returns filling through iTAX has improved as expressed by the mean of 3.872; There has been timely filing of returns since inception of I-Tax as expressed by the mean of 4.054; I-Tax has created a friendly environment for taxpayer filing their returns and making queries as expressed by the mean of 4.109; The use of online registration promotes individual and non-individual to make amendments to any personal details as expressed by the mean of 4.109; The mean of 3.991 and a standard deviation of 1.145 was a revelation that I-Tax System had influence on revenue collection in this organization.

4.3.2 Integrated Cargo Management System and Revenue Collection

The study addressed the subject of Integrated Cargo Management System and its effect on revenue collection using Likert scale that was ranging from 1=strongly disagree, 2= disagree, 3= neutral, 4= agree and 5 for strongly agree. The findings were shown on the table 4.6.

Table 4.6 : Integrated Cargo Management System

Statement	N	Mean	Std. Deviation
There has been a significant improvement in the transit time from 11 days to 4 days	200	4.018	1.19398
Traders have benefitted immensely from this system since it facilitates real time responses from the customs department		3.830	1.23828
The system is supported by rapid response units strategically along the transit route		3.423	1.19257
Containerized cargo theft has reduced since incorporation of cargo tracking system		3.750	1.20800
The introduction of online monitoring of cargo by use of the Electronic Cargo Tracking System helps tracks and monitors cargo		3.672	1.12307
Composite Mean		**3.738**	**1.191**

Source: Research Data, (2020)

Table 4.6 provided study findings that were aimed at establishing the extent to which Integrated Cargo Management System affected revenue collection. The study established that there has been a significant improvement in the transit time from 11 days to 4 days as expressed by the mean of 4.018; Traders have benefitted immensely from this system since it facilitates real time responses from the customs department as expressed by the mean of 3.830; The system is supported by rapid response units

strategically along the transit route as expressed by the mean of 3.423; Containerized cargo theft has reduced since incorporation of cargo tracking system by the mean of 3.750; The introduction of online monitoring of cargo by use of the Electronic Cargo Tracking System helps tracks and monitors cargo as expressed by the mean of 3.672. The analysis in the study established a final composite mean of 3.738 and a standard deviation of 1.191 which was considered a revelation that Integrated Cargo Management System had effect on revenue collection

4.3.3 Excise Goods Management System and Revenue Collection

The study addressed the subject of Excise Goods Management System and its effect on revenue collection using Likert scale that was ranging from 1=strongly disagree, 2= disagree, 3= neutral, 4= agree and 5 for strongly agree. The findings were shown on the table 4.7.

Table 4.7 : Excise Goods Management System

Statement	N	Mean	Std. Deviation
EGMS is designed to have minimal disruption to the operations of manufacturers.	200	3.618	1.20939
Cases of system failure when login in are less experienced		3.800	1.25314
The online EGMS systems are easily accessible to the tax payers.		4.000	1.27657
There is general user acceptance of KRA's online systems of payment		4.145	.97026
EGMS is designed to have minimal disruption to the operations of manufacturers.		4.072	1.19961
Composite Mean		**3.927**	**1.181**

Source: Research Data, (2020)

Table 4.7 provided study findings that were aimed at establishing the effect of Excise Goods Management System on revenue collection in this organization. Going by various responses provided, the study found that EGMS is designed to have minimal disruption to the operations of manufacturers as expressed by the mean of 3.618; Cases of system failure when login in are less experienced as expressed by the mean of 3.800; The online EGMS systems are easily accessible to the tax payers as expressed by the mean of 4.000; There is general user acceptance of KRA's online systems of payment as expressed by the mean of 4.145; EGMS is designed to have minimal disruption to the operations of manufacturers as expressed by the mean of 4.072. The findings generated from the study revealed that many respondents as depicted by a composite mean of 3.927 and standard deviation of 1.181 are revelations that Excise Goods Management System had influence on revenue collection. The study addressed the subject of revenue collection using Likert scale that was ranging from 1=strongly disagree, 2= disagree, 3= neutral, 4= agree and 5 for strongly agree. The findings were shown on the table 4.8.

Table 4.8 : Revenue collection

Statement	N	Mean	Std. Deviation
Taxpayer education has enhanced compliance	200	3.800	1.22323
I-Tax system has enhanced tax revenue collection		3.763	1.21661
Revenue collection in terms of volume has increased tremendously		4.090	1.15907
The volume of income reporting compliance has increased		3.963	1.27604
All taxpayers have reported satisfaction with the revenue system		3.527	1.37241
Composite Mean		**3.829**	**1.249**

Source: Research Data, (2020)

The presentation of findings on table 4.8 was intended to show the state of revenue collection undertaken by KRA. The study established that Taxpayer education has enhanced compliance by a mean of 3.800. The analysis also showed that I-Tax system has enhanced tax revenue collection by a mean of 3.763. The study found that Revenue collection in terms of volume has increased tremendously as shown by a mean of 4.090. In the analysis, the study revealed that the volume of income reporting compliance has increased by a mean of 3.963. All taxpayers have reported satisfaction with the revenue system with a mean of 3.5273 The summarized data revealed that the responses provided has a composite mean of 3.829 with a standard deviation of 1.249 being a revelation that how this organization enforces tax systems results in determining how effective the revenue would be collected.

4.4 Inferential Analysis

The study did inferential statistics by making use of samples that are selected randomly based on the data provided in the study population in order to refer to the population. Therefore, the inferential statistics involved the use correlation and multiple regressions.

Before multiple regression was conducted, Normality, Linearity and Multicollinearity tests were conducted to ensure that the assumption of multiple regression analysis were not violated.

Multicollinearity Tests

Table 4.9 : Multicollinearity Tests

	Tolerance	
Variable	**(1/VIF)**	**VIF**
iTax	.546	1.832
Integrated Cargo Management System	.653	1.531
Excise Goods Management System	.653	1.530

Source: Research Data, (2020)

From the results indicted in the table 4.9, the Variance Inflation Factor (VIF) was between 1-10 and the tolerance value was also greater than 0.1 implying that the problem of multicollinearity was eliminated.

i. **Linearity Test**
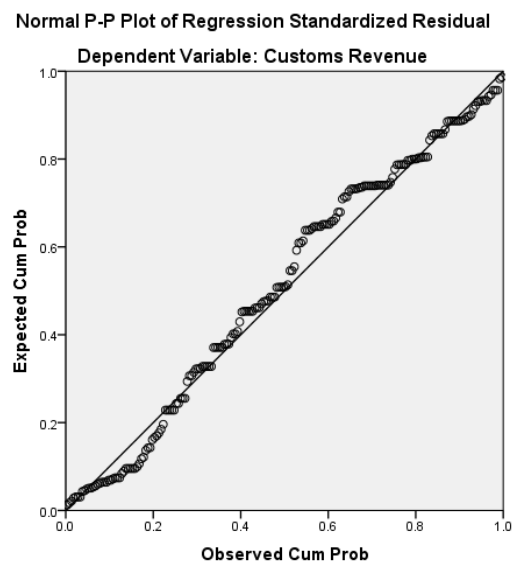
A visual inspection of the P-P plot indicated that there was linear relationship between the dependent and the independent variables

ii.   Normality

Table 4.10: Normality Tests

	Shapiro-Wilk		
	Statistic	**df**	**Sig.**
Unstandardized Residual	.785	200	.191
Standardized Residual	.785	200	.191

Shapiro-Wilk tests was used to indicate normality of data based on the p-values. For the two tests, the null hypothesis is rejected if the p-value $< .05$ implying the data is not normally distributed whereas null hypothesis is accepted if the p-value $> .05$.

Table 4.10 above that the residuals were normally distributed since p-value >0.05. Therefore, the assumption of normality was not violated

4.4.1 Correlation Analysis

The researcher used Pearson Product Moment correlation coefficient which establishes the level of strength that determines the strength of linear association that is present in bivariate variables which considered having an effect on revenue collection. There is need to note that in instances when Pearson coefficient is less than 0.3, the correlation is perceived as weak relationship although where the correlation is 0.5 it shows that there is a strong correlation among variables subjected to tests. The outcome of correlation analysis was shown on the table 4.11 overleaf.

Table 4.11 : Correlation Analysis

		Customs Revenue	iTax	Integrated Cargo Management System	Excise Goods Management System
Customs Revenue	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	200			
iTax	Pearson Correlation	.642**	1		
	Sig. (2-tailed)	.000			
	N	200	200		
Integrated Cargo Management System	Pearson Correlation	.622**	.572**	1	
	Sig. (2-tailed)	.000	.000		
	N	200	200	200	
Excise Goods Management System	Pearson Correlation	.620**	.572**	.442**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	200	200	200	200

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Research Data, (2020)

The study was aimed at examining the direction of the strength regarding the relationship that prevails between the different factors that are presumed to have an effect on revenue collection after performing correlation analysis.

In the study, the relationship between the I-Tax System and revenue collection showed there was positive correlation with r=0.642 and significant at 1% level of significance.

The results show that there is a strong positive correlation between Integrated Cargo Management System and revenue collection as shown by the r=0.622 and statistically significant. There was a strong positive correlation between Excise Goods Management System and revenue collection as shown by r=0.620 at 1%.

4.4.2 Multiple Regression Analysis

Multiple regression analysis was adopted to show the level of significance of the relationship that exists between dependent variable and independent variables. The analysis shows how independent variables would affect dependent variable and to show the extent to which the chosen variables affect each other. The results are indicated in the model summary on the table 4.12.

Table 4.12: Multiple Linear Regression analysis Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.759[a]	.576	.570	.29353

a. Predictors: (Constant), Excise Goods Management System, Integrated Cargo Management System, iTax

Source: Research Data, (2020)

The results from the model summary revealed that the adjusted R square of 0.57 which is 57% being the variation on revenue collection at KRA can be affirmed by I-Tax System, Integrated Cargo Management System and Excise Goods Management System. Therefore, the remaining percentage which is 43 helps to reveal that there were other factors that were not captured by the model which still affected revenue collection at Kenya Revenue Authority.

4.4.3 Analysis of Variance

The ANOVA-Analysis of Variance is used to show how well the adopted mode fits for use in the study. The findings were summarized on the table 4.12.

Table 4.13 : Analysis of Variance (ANOVA)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	22.965	3	7.655	88.843	.000[b]
	Residual	16.888	196	.086		
	Total	39.853	199			

a. Dependent Variable: Customs Revenue
b. Predictors: (Constant), Excise Goods Management System, Integrated Cargo Management System, iTax
Source: Research Data, (2020)

The analysis on the variance showed that I-Tax System, Integrated Cargo Management System, Excise Goods Management System all together had a significant influence on revenue collection Kenya Revenue Authority. The analysis showed that this regression model provide a significance level of 0.000% which affirms that the data in this study was suitable for coming up with study conclusion based on the population parameters since the significance was found to be less than 0.005. The F (88.843) being static, is the regression mean that is divided by the residue mean. The significance value shown by this value; 0.000 is considered lesser than the approximated value of 0.005 which is further a revelation that the data was significant for making final conclusion.

Table 4.14: Regression Coefficient Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.677	.231		2.924	.004
	iTax	.311	.072	.274	4.348	.000
	Integrated Cargo Management System	.257	.046	.324	5.625	.000
	Excise Goods Management System	.259	.046	.321	5.580	.000

a. Dependent Variable: Customs Revenue

Source: Research Data, (2020)

The regression analysis model derived from the methodology was specified as follows;

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$:

Where

Y = revenue collection;

X_1 = I-Tax System;

X_2 = Integrated Cargo Management System;

X_3 = Excise Goods Management System,

α = constants term, i.e. the revenue collection does depend on variables under study

$\beta_1, \beta_2, \beta_3$ = regression coefficients of X_1, X_2 and X_3 ε = error item.

$Y = 0.677 + 0.274 X_1 + 0.324 X_2 + 0.321 X_3$

4.5 Hypothesis Testing

The first hypothesis Ho_1 stated that the I-Tax System has no significant effect on revenue collection by Kenya Revenue Authority. The i-Tax has a positive relationship impact on revenue collection by Kenya Revenue Authority. The results on Table 4.15

revealed that P value was below 0.05, $\rho=0.000$ which implies that relationship was statistically significant therefore null hypotheses was rejected.

The second hypothesis Ho_2 stated that the integrated cargo management system has no significant effect on revenue collection by Kenya Revenue Authority. Integrated cargo management system has a positive relationship effect on revenue collection by Kenya Revenue Authority. The results on Table 4.15 revealed that p value was less than 0.05, $\rho=0.004$ which implies that relationship was statistically significant and therefore null hypotheses was rejected.

The third hypothesis Ho_3 stated that Excise Goods Management System has no significant effect on revenue collection by Kenya Revenue Authority. Excise Goods Management System has a positive relationship impact on revenue collection by Kenya Revenue Authority. The results on Table 4.15 revealed that p value was less than 0.05, $\rho=0.000$ which implies that relationship was statistically significant and therefore null hypotheses was rejected.

Table 4.15: Summary of Hypothesis Testing

Hypothesis	P-value	Conclusion
H_01: I-Tax System has no significant effect on revenue collection by Kenya Revenue Authority	0.000	Reject Ho_1
H_02: Integrated cargo management system has no significant effect on revenue collection by Kenya Revenue Authority	0.000	Reject Ho_2
H_03: Excise Goods Management System has no significant effect on revenue collection by Kenya Revenue Authority	0.000	Reject Ho_3

4.6 Discussion of the Findings

The results of the descriptive statistics indicated that majority of the respondents agreed with statement that suggest the influence of electronic tax systems on revenue collection by Kenya Revenue Authority in Nairobi region, Kenya.

4.6.1 Effect of I-Tax System on Tax Revenue Collection

The Correlation analysis results between the I-Tax System and revenue collection showed there was positive correlation with r=0.642 and significant at 1% level of significance. The results of the multiple regression analysis also study that there was positive and significant relationship between I-Tax System and revenue collection at (β_1) 0.274, t=4.348, p value <0.05). The analysis implied that a unit change in I-Tax System increases level of revenue collection by 0.274 units when holding other factors constant. Similar study was done by Boone (2015) that an I-Tax filing system integrates the processes of registration, tax preparation, tax filing and tax payment. Taxpayers therefore avoid the hassles of visiting the tax office and making long queues, the returns are filed at their convenience. It is in this regard that several tax authorities have embraced the change and adopted an I-Tax filing approach. Further, Okech and Mburu (2016) assert that an I-Tax filing system integrates the processes of registration, tax preparation, tax filing and tax payment. Taxpayers therefore avoid the hassles of visiting the tax office and making long queues, the returns are filed at their convenience. It is in this regard that several tax authorities have embraced the change and adopted an I-Tax filing approach.

4.6.2 Effect of Integrated Cargo Management System on Tax Revenue Collection

The results also show that there is a strong positive correlation between Integrated Cargo Management System and revenue collection as shown by the r=0.622 and

statistically significant. The study findings also revealed that there was a positive and significant relationship between Integrated Cargo Management System and revenue collection at KRA (β_2) 0.324, t=5.625, p value <0.05). The analysis implied that a unit change in Integrated Cargo Management System increases level of revenue collection by 0.324 units when holding other factors constant. The result concurred with Macharia (2018) highlighted that there was also introduction of online monitoring of cargo by use of the Electronic Cargo Tracking System which tracks and monitors cargo from port and all the way to the destination neighboring countries. In addition, communication between the East Africa Region were improved by the introduction of the Revenue Authorities' Digital Data Exchange (RADDEX).

4.6.3 Effect of Excise Goods Management System on Tax Revenue Collection

Their Correlations results established a strong positive correlation between Excise Goods Management System and revenue collection as shown by r=0.620 at 1%.

The study further showed that there was a positive and significant relationship between Excise Goods Management System and revenue collection at KRA (β) 0.321, t=5.580, p value <0.05). The analysis implied that a unit change in Excise Goods Management System increases revenue collection by 0.321 units when holding other factors constant. The findings of this study relates to Wheeler (2018) study that established that EGMS has redundancies that allow production to continue in the case of lack of connectivity to KRA. Macharia (2018) further noted that as a matter of principle and in compliance with constitutional requirements, KRA engages the taxpayers and members of the public before implementation of Policies, Laws and Systems. To this end, the Authority has carried out various consultative forums with the registered taxpayers and general public in relation to implementation of the

EGMS; The feedback from such forums were extensively evaluated and may be considered into the implementation of the programme.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study comprised of the summary of findings, conclusions and the recommendations, the limitations of the study and finally the suggestions for further studies. The study focused on the study which was based on "effects of adoption of electronic tax systems on revenue collection by Kenya Revenue Authority in Nairobi Region.

5.2 Summary of Findings

The overall objective of this study was to examine Effects of adoption of electronic tax systems on revenue collection the Kenya Revenue Authority in Nairobi Region. In particular the study sought to determine the to examine the effect of I-Tax System on revenue collection by Kenya Revenue Authority in Nairobi Region, to establish the effect of Integrated Cargo management system on revenue collection by Kenya Revenue Authority in Nairobi region and to determine the effect of Excise Goods Management System on revenue collection by Kenya Revenue Authority in Nairobi region.

5.2.1 I-Tax System and Revenue Collection

The summary of the findings showed that I-Tax system had a notable role on revenue collection. From the responses obtained, the study revealed that income filing promotes ease of traceability by KRA for paid taxes, as a result, KRA was capable of tracing down the tax defaulters if they have already registered on the I-Tax system, thus, prompting tax payers to remit their tax promptly due to penalties. It was also noted that taxpayers tend to e-file near the tax deadline and this may lead to system

crashes, this implied that many tax payers may be lacking the drive to file their tax on time until last minute, as a result, KRA may loose out on revenues that would have been collected. The study findings revealed that the responses from the majority of respondents were not in agreement that there has been timely filing of returns since inception of I-Tax. The finding reveals that despite the introduction of the I-Tax system, there are still high cases of delayed tax remittance from tax payers, a revelation that KRA could still be losing revenues. The study established that since the I-Tax was considered user friendly, it was expected that many tax payers would be in position to make use of the system and submit correct information so that KRA can use to establish revenue due for collection.

The study showed that there was positive and significant relationship between I-Tax System and revenue collection at (β_1) 0.274, t=4.348, p value <0.05). The analysis implied that a unit change in I-Tax System increases level of revenue collection by 0.274 units when holding other factors constant.

5.2.2 Integrated Cargo Management System and Revenue Collection

The summary obtained from the analyzed data revealed that ICMS gave notable contribution towards determining success in revenue collection. It was noted that there has been a significant improvement in the transit time from 11 days to 4 days and drastic reduction in dumping cases, as a result, due to the implementation of Integrated Cargo Management System, close monitoring of cargo has helped in addressing dumping of low value product and also trucking imported cargo through proper ascertaining of tax needed to be paid. The study also established that traders have benefitted immensely from this system since it facilitates real time responses from the customs department, an indication that those cargo owners are able to

monitor their cargos with the help of KRA thereby achieving the goal of securing their cargo against losses. There were responses showing that the system is not supported by rapid response units strategically along the transit route, hence, despite the systems being located along the transit routes, there could be cases of delayed trucking resulting in loss of revenue through hiding of cargo. Further findings revealed that clearing agents are distinctly unhappy about the move to the ICMS. This was a revelation that shoddy deals that clearing agents were engaging were now well curtailed and tax collection improved hence, denying opportunity of illegal practice by agents.

The study findings revealed that there was a positive and significant relationship between Integrated Cargo Management System and revenue collection at KRA (β_2) 0.324, t=5.625, p value <0.05). The analysis implied that a unit change in Integrated Cargo Management System increases level of revenue collection by 0.324 units when holding other factors constant.

5.2.3 Excise Goods Management System and Revenue Collection

The summary of findings revealed how excise goods management system contributes in revenue collection. The study established that KRA engages the taxpayers and members of the public before implementation of Policies, Laws and Systems, the results implied that since KRA encourages participation of tax payers, it was expected that tax payers will be expected to honor tax payment commitment considering that they were part of the parties expected to provide ideas on favorable taxation. The analysis that KRA do carry out consultative forums with registered taxpayers in relation to implementation of the EGMS, the results implied that the consultative forum will enhance the room for tax payers to embrace the idea of positivity towards

tax payment resulting in improved revenue collection. The study also established that EGMS is designed to have minimum impact to the efficiency of manufacturers' production lines, revealing that the system is considered to be non interference with the operation of the companies when seeking to collect tax revenues. It was finally established that there is general user acceptance of KRA's online systems of payment, from these finding, it was an indication that the general user acceptance by the tax payer may propel KRA in meeting tax revenue collection goals.

The study further showed that there was a positive and significant relationship between Excise Goods Management System and revenue collection at KRA (β) 0.321, t=5.580, p value <0.05). The analysis implied that a unit change in Excise Goods Management System increases revenue collection by 0.321 units when holding other factors constant.

5.3 Conclusion

In conclusion, the study noted that I-Tax system had effect on revenue collection. The conclusion revealed that taxpayers tend to e-file near the tax deadline and this may lead to system crashes. Despite the introduction of the I-Tax system, there are still high cases of delayed tax remittance from tax payers, a revelation that KRA could still be losing revenues.

In integrated cargo management system and revenue collection, the study concluded that ICMS had major influence on success of revenue collection. The study establishes that traders have benefitted immensely from this system since it facilitates real time responses from the customs department, an indication that those cargo owners are able to monitor their cargos with the help of KRA thereby achieving the goal of securing their cargo against losses.

In Excise Goods Management System, KRA engages the taxpayers and members of the public before implementation of Policies, Laws and Systems. Still, KRA do carry out consultative forums with registered taxpayers in relation to implementation of the EGMS and that the system is considered to be of non-interference with the operation of the companies when seeking to collect tax revenues.

5.4 Recommendations

5.4.1 I-Tax System

The study recommends that the management of Kenya Revenue Authority should ensure that adequate public awareness is done to ensure that potential tax payers all register in the I-Tax system. This will ensure that revenue collection increment is realized considering all the registered tax payers can be monitored if they are fulfilling their tax obligation or not. More effort on public awareness should also be made in order to encourage payers to submit their tax information on time without waiting last minute rush that prompts the systems to fail.

5.4.2 Integrated Cargo Management System

The study recommends that the management of Kenya Revenue Authority should ensure that they fully enforce usage of Integrated Cargo Management System. The management should make punitive measures that will discourage cargo dealers from falsifying information about the cargo in transit. By enforcing this strategy, the KRA body may help control importation of inferior goods that would affect the country and lives of the citizens.

5.4.3 Excise Goods Management System

The management of Kenya Revenue Authority should consider giving indulging with the citizens on the best approach of using Excise Goods Management System.

Therefore, the idea of engaging the taxpayers and members of the public before implementation of Policies, Laws and Systems should be promoted as this encourages participation of tax payers giving rise to healthy collaboration towards revenue collection.

5.5 Limitation of the Study

The scope or area of research was a limitation in the course of carrying out the research. This was considered a challenge considering that one organization was used as the case study then the findings that were generated from the study outcome may not necessarily represent true state of other revenue collection bodies such as county government.

In the course of analyzing data, the volume of data was also a limitation. The large volume of data resulted in delays of developing final analysis. Various responses that were provided had to be subjected to intensive analysis which resulted in consuming more time than planned for.

5.6 Suggestion for Further Research

The study majored on effects of tax systems on revenue collection in Kenya and a case study of Kenya Revenue Authority. Therefore, despite the extensive research done, it was considered not exhaustive enough since, only one organization was involved. Therefore, studies need to be done on similar topic but the case of reference should be on business community or traders in particular. This would help evaluate opinion from both side of tax payer and tax collector.

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APPENDICES

Appendix I: Questionnaire

INTRODUCTION:

My name is Lucky Wambui Kalomba. I am a post graduate student at the Kenya School of Revenue Administration pursuing a Masters in Tax Administration Degree to be issued by Moi University. I am currently undertaking a research study on 'Effects of adoption of electronic tax systems on revenue collection by Kenya Revenue Authority in Nairobi region, Kenya.'

You have been selected to participate in this study and I wish to request that you assist in filling up the below questionnaire. The information you provide will exclusively and solely be used for academic purposes and will be treated with the confidence it deserves.

Thank you in advance for your cooperation.

INSTRUCTIONS:

Kindly respond to all the questions provided. Respond by ticking (√) the appropriate spaces and filling the spaces that have been provided based on effects of tax systems on revenue collection in Kenya, a case study of Kenya Revenue Authority**.**

SECTION A: GENERAL INFORMATION

SECTION A: General Information

1. Gender

Male   [   ]

Female   [   ]

2. How long have you worked with this organization?

Less than 1 year   [   ]

1-4 years   [   ]

5-7 years   [   ]

8-10 years   [   ]

11 years over   [   ]

3. Level of education

College Diploma   [   ]

University degree   [   ]

Post graduate university   [   ]

SECTION B: I-Tax System and Revenue Collection

4. Kindly choose on the statement you agree with, that describes effect of I-Tax

System on revenue collection by Kenya Revenue Authority.

KEY: Strongly Agree (SA)-5, Agree (A)-4, No Idea (NI)-3, Disagree (D)-2,

Strongly Disagree (SD)-1.

Statement	1	2	3	4	5
Returns filling through iTAX has improved					
There has been timely filing of returns since inception of I-Tax					
I-Tax has created a friendly environment for taxpayer filing their returns and making queries.					
The use of online registration promotes individual and non-individual to make amendments to any personal details					
I-Tax system has resulted into increased number of taxpayers					

SECTION C: Integrated Cargo Management System and Revenue Collection

5. Kindly choose on the statement you agree with, that describes effect of effect of Integrated Cargo management system on revenue collection by Kenya Revenue Authority.

KEY: Strongly Agree (SA)-5, Agree (A)-4, No Idea (NI)-3, Disagree (D)-2,

Strongly Disagree (SD)-1.

Statement	1	2	3	4	5
There has been a significant improvement in the transit time from 11 days to 4 days					
Traders have benefitted immensely from this system since it facilitates real time responses from the customs department					
The system is supported by rapid response units strategically along the transit route					
Containerized cargo theft has reduced since incorporation of cargo tracking system					
The introduction of online monitoring of cargo by use of the Electronic Cargo Tracking System helps tracks and monitors cargo					

SECTION D: Excise Goods Management System and Revenue Collection

6. Kindly choose on the statement you agree that describes effect of Excise Goods Management System on revenue collection by Kenya Revenue Authority.

KEY: Strongly Agree (SA)-5, Agree (A)-4, No Idea (NI)-3, Disagree (D)-2, Strongly Disagree (SD)-1.

Statement	1	2	3	4	5
KRA has carried out consultative forums with registered taxpayers in relation to implementation of the EGMS					
EGMS is designed to have minimal disruption to the operations of manufacturers.					
Cases of system failure when login in are less experienced					
The online EGMS systems are easily accessible to the tax payers.					
There is general user acceptance of KRA's online systems of payment					

SECTION E: Revenue Collection

6. Kindly choose on the statement you agree that describes revenue collection by Kenya Revenue Authority.

KEY: Strongly Agree (SA)-5, Agree (A)-4, No Idea (NI)-3, Disagree (D)-2,

Strongly Disagree (SD)-1.

Statement	1	2	3	4	5
Taxpayer education has enhanced compliance					
I-Tax system has enhanced tax revenue collection					
Revenue collection in terms of volume has increased tremendously					
The volume of income reporting compliance has increased					
All taxpayers have reported satisfaction with the revenue system					

Thank you for your Response