

**THE IMPACT OF SYSTEM AUTOMATION ON REVENUE COLLECTION IN KENYA
REVENUE AUTHORITY, NAIROBI REGION.**

(A CASE STUDY OF KENYA REVENUE AUTHORITY)

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**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF POST GRADUATE DIPLOMA IN
TAX ADMINISTRATION AT JOMO KENYATTA UNIVERSITY OF
AGRICULTURE AND TECHNOLOGY**

2019

DECLARATION

I declare that this is my original work and has not been submitted to any other college, institution or university.

.....

Date.....

Reg No. HDB336-C016-5153/2016

This research project has been submitted for examination with my approval as the university supervisor

Signed:

Date:

Dr.Marion Nekesa

DEDICATION

I dedicate this research project to my family, friends and colleagues for their ever growing support in my life especially during the process of my studies at Kenya School of Revenue Administration.

ACKNOWLEDGEMENT

Special thanks to the following persons for their devoted time to make this research project a success; I acknowledge my supervisor, Dr Marion Nekesa.

ABSTRACT

Actual revenues and expected revenue always differ with large gap margin resulting in lower than expected revenue collection. While the total tax receipts may be lower compared to full compliance, it may not be lower than under other feasible taxation system. iTax is a modern computer-based assessment and collection software used by the government. It is a computing and accounting system for state revenues which stores all relevant (credit and debit) data in individual accounts in a data base, and thus helps monitor and control all tax transactions. iTax provides a convenient and efficient way to improve revenue collection, transparency in fiscal administration and management of local and national tax authorities. It is important to understand iTax system and its influence on revenue collection. The study therefore aims to establish the effect of system automation on revenue collection in Kenya Revenue Authority, Nairobi Region. The study was guided by the following specific objectives:- to investigate the effect of e-payment on revenue collection in Kenya Revenue Authority, to find out the effect of e-registration on revenue collection in Kenya Revenue Authority and to determine the effect of e-filing on revenue collection in Kenya Revenue Authority. The study adopted descriptive research design. The study target population was 320 Kenya Revenue Authority employees in Nairobi Region. The study sample size was 100. This study used primary data collected through questionnaires. A pre-test on a different sample will be carried out to give a Cronbach's alpha greater than 0.7 for all the variables as a rule of thumb. Data analysis was used by use of descriptive statistics and inferential statistics using Standard statistical techniques including Pearson correlation coefficient and regression analysis was employed in the analysis. All the analysis was done using the statistical package for social sciences (SPSS Version.24). The study found that there are challenges when trying to use iTax system. The study recommends that KRA should find a way of training users on how to use the system and overcome the challenges of iTax system.

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LIST OF ACRONYMS AND ABBREVIATIONS

DTD	Domestic Taxes Department
ETR	Electronic Tax Register
GDP	Gross Domestic Product
ICT	Information and Communications Technology
KRA	Kenya Revenue Authority
PIN	Personal Identification Number
SPSS	Statistical Package of Social Sciences
VAT	Value Added Tax

DEFINITION OF TERMS

Automation	The technological upgrade undertaken by Kenya Revenue Authority as part of its strive to increase tax collection and reduce tax loopholes especially caused by tax evasion
iTax	It is a web-enabled and secure application system that provides a fully-integrated and automated solution for administration of domestic taxes. • Enables Taxpayer internet based PIN registration, returns filing, payment registration to allow for tax payments and status inquiries with real-time monitoring of accounts.
Revenue Collection	This is the funding received by any organization. For KRA it refers to tax collections' that forms part of major collections by the organization.
Tax:	A compulsory financial contribution imposed by a government to raise revenue, levied on the income or property of persons or organizations, on the production costs or sales prices of goods and services, etc.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

1.1.1 Global Perspective

Globally, the tax environment is changing rapidly. Tax authorities are being challenged to maintain a modernized and responsive tax administration system. Tax agencies are leveraging on the electronic tax filing (e-filing) system to achieve greater tax administrative and compliance efficiency (Lai et al., 2011). Electronic filing is the modern way of tax authorities interacting with tax payers. Tax practitioners as a group apparently do not see that the conversion to electronic filing offers much to them in terms of return on their investment, considering the cost of software and hardware needed to adopt the e-filing technology (Skillman, 2010). Although many tax practitioners do perceive that electronic filing is an important and improved service; they do not view it as vital in gaining competitive advantage (ACCA, 2012).

Governments today are under an increasing pressure to improve the delivery of public services in cost-effective ways. Despite numerous challenges most governments have turned to e-government led solutions like electronic tax filing (e-filing) (Ojha et al., 2011). To date, the use of ICT is prominent in business and tax settings. Notably, tax authorities around the world are using electronic tax administration system to interact with taxpaying public in tax collection, administration and compliance settings. Technology has influenced the way we work, play, and interact with others. Much remains to be done in many countries to build effective tax administrations. High turnover of senior staff, weak headquarters, inadequate/unstable financing are recurrent concerns, as especially in developing countries are weaknesses in auditing, taxpayer

services and legal frameworks. IT developments offer considerable opportunities but also pose new compliance problems (International Monetary Fund, 2014).

System automation is one of the fundamental instruments of organization strategies to enter new markets, to increase the existing market share and to provide the company with a competitive edge. Motivated by the increasing competition in global markets, institutions have started to grasp the importance of innovation, since swiftly changing technologies and severe global competition rapidly erode the value added of existing products and services. Thus, innovations constitute an indispensable component of the corporate strategies for several reasons such as to apply more productive processes, to perform better in the market, to seek positive reputation in customers' perception and as a result to gain sustainable competitive advantage (Wasilewski, 2010; Kuratko et al., 2011). Hornsby (2013) defined performance management as an ongoing process of communication between a supervisor and an employee in support of accomplishing the strategic objectives of the organization or in ways that contribute to achieving the organizations mission indispensably for a business organization.

In today's knowledge based world, providing public services are heavily depend on information and communication technologies. One of the important application area related to the use of information technologies in the public services is taxation. Electronic tax return, payment systems and tax automation systems generated in this area gain an increasing importance because of their ability to increase collections. Electronic tax management applications firstly started in the USA, and then spread in other developed and developing countries. Factors such as information and communication technologies which develop rapidly together with the process of globalization, gain strength and decrease costs and the increasing information sharing have

extended the electronic tax management applications all over the world (de Wulf & Sokol, 2012).

Automation of revenue collection system involves investing in modern technologies for example: ICT in order to upgrade the revenue system to achieve integration and information sharing so as to enhance efficiency and effectiveness of the system. All Sectors of the County should put in place an effective and efficient revenue collection system in monitoring framework that ensures adequate supervision of the budgeted programs and project activities to enhance accountability and absorption of resources (Amin, 2013). Automation of revenue collection systems and structures is instrumental in improving and simplifying administration of taxation through utilizing modern technologies for example ICT.

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

Revenue administration automation has a positive impact on the cost of tax administration, automation and effectiveness of revenue collection. In Addition, automation of process at revenue collection points has a positive impact on the tax clearance time (Haughton &Desmeules, 2011). Automation of Tax-Information Processing System does not require high equipment cost, but rather helps to ease the burden of over-staffing, high re-engineering cost confronted by among other government institutions.

Verifying that the correct amount of tax has been paid is an important component of improving compliance. Limited resources restrict the ability of revenue authorities to audit each and every tax return submitted (Amin, 2013). Increased focus on areas of greater revenue risk would form a major part of the strategy of any revenue authority, which relies on a self-assessment system. In order to curb tax evasion, revenue authorities make use of data base programs to assist with case selection. A data base is a research tool which combines data from various revenue information systems and identifies areas of risk to be investigated by the audit section (Dramod, 2014). External data base programs from other Government or non-Government agencies are also used, such as those of the Registrar of Companies, the Title Deeds Office, and others. As such, modernization of tax collection system has a great impact on the level of revenue collection in any economy (de Wulf & Sokol, 2012).

In today's knowledge based world, providing public services are heavily depend on information and communication technologies. The internet has simply become the basic information communication and sharing area of the future (UNCTAD, 2013). While information technologies provide austerity at an important level, they also improve the quality of the public service. One of the important application area related to the use of information technologies in the public services is taxation. Electronic tax return, payment systems and tax automation systems generated in this area gain an increasing importance because of their ability to increase collections. Electronic tax management applications firstly started in the USA, and then spread in other developed and developing countries. Factors such as information and communication technologies which develop rapidly together with the process of globalization, gain strength and decrease costs and the increasing information sharing have extended the electronic tax management applications all over the world (de Wulf & Sokol, 2012).

Automation system based approaches have become an important vehicle for achieving efficiency in tax administration (UNCTAD, 2014). Hence, automation impacts on the efficiency of tax administration. Efficiency of tax administration is defined as costs, tax clearance time and effectiveness of revenue collection. According to a study conducted in Ghana by Gidisu (2012) on the automation system procedure of the Ghana revenue authority on the effectiveness of revenue collection, Ghana Revenue Authority (GRA) adopted the UNCTAD developed Automated System for Customs Data and Management, which is fully integrated and covers the complete tax clearance process. The system handles customs declarations, accounting procedures, transit and other suspense procedures, generation of trade data that can be used for statistical and economic analysis (United Nations Economic Commission for Europe, 2011).

Electronic tax filing was first coined in United States, where the Internal Revenue Service's (IRS) began offering e-filing for tax refunds only. This has now grown to the level that currently approximately one out of every five individual taxpayers is now filing electronically. This however, has been as a result of numerous enhancements and features being added to the program over the years. Online tax filing (Electronic tax filing or e-filing) is a process where tax documents or tax returns are submitted through the internet; usually without the need to submit any paper return (Wasao, 2014). The e-filing system encompasses the use of internet technology, the Worldwide Web and Software for a wide range of tax administration and compliance purposes. Countries have given different names to online tax filing system, for instance (Gellis, 1991), electronic declaration is named electronic tax filing.

Before 1990, organizations in most countries across the world used information technology (IT) in a very restricted manner (Bryson & Daniels, 2007). At the time, the use of information and communication technologies (ICT's) for business operations was considered to be costly rather

than a way of presenting organizations with a new approach to business. As a result of increased technological advancements, however, things took a different turn and the use of ICT's became an important consideration for most organizations (Al-Adaileh, 2009). A number of factors including increased global activities and the evolution of a digital environment have greatly contributed to the increased use of ICT's by organizations.

As a result of the above changes, many organizations are compelled to spend heavily on ICT's in order to improve performance and increase efficiency (Rao, 2006; May et al., 2007).

However, the initial excitement quickly disappears when it becomes almost impossible to determine the role and exact benefits associated with the use of ICT's. Consequently, it is critical for any organization to assess the contribution of ICT systems to performance. Considering that the use of ICT's is aimed at enhancing the users' ability to work better and produce more, it is imperative to measure and assess the success of ICT's from the users' perspective. Arguably, the success of ICT's depends more on users than on technology (Akman et al., 2005). Tax compliance is the timely filing and reporting of required tax information, the correct self-assessment of taxes owed, and the timely payment of those taxes without enforcement action (Jones, 2009).

In Africa, Nigeria for instance modernised its tax administration services in the period between 2004 and 2013. The online system was known as Integrated Tax Administration System (ITAS). The system was launched in 2013, its main aim was to use technology to enhance tax compliance with automation of all core processes of tax administration (PwC, 2015).

The East Africa region was not left behind; Uganda and Tanzania were early reformers of their revenue administration systems in the Eastern Africa Region (KRA, 2010). Muwonge (2011)

notes that in Uganda, the Uganda Revenue Authority (URA) in 2005 developed an online tax system dubbed 'e-Tax'. Muwonge (2011) further comments that the purpose of the online tax system was to enable efficiency in the tax administration process as well as reduce the taxpayer's expenses in tax compliance. In Tanzania on the other hand, electronic filing of VAT returns was introduced in October 2012 significantly reducing the time taken to file the tax returns. Additionally, in 2013 the Tanzania Revenue Authority (TRA) launched a Revenue Gateway System, an interface between the TRA and commercial banks enabling seamless payments of taxes.

Tax evasion is the deliberate failure to pay taxes as provided in the tax laws. According to Sandmo (2005) tax evasion is a practice that violates the tax laws. He emphasized that when taxpayers refrain from reporting correct profits, they engage in illegal activities that are subject to legal action from the tax authorities. Tax evaders will always want to hide from the tax authorities. A report by the Institute of Economic Affairs (2012) noted that tax evasion is common in the SME sector, largely driven by the perception that taxes create a heavy burden on them.

Tax evasion is different from tax avoidance in that, tax avoidance is done within the confines of the tax laws (Sandmo, 2005). When there is ambiguity in the tax laws, this in some cases provides a tax saving opportunity for a business. A business can also evaluate their business model, transactions and financial profile to align themselves in such a way that they benefit from paying lower taxes (Mgammal & Ismail, 2015). Hira (2016) notes that the most positive aspect of the year 2015 was the introduction of the iTax online system. Hira asserts that though the iTax system has been experiencing teething problems, he believes it was a good move as it would revolutionize how tax affairs would be conducted.

1.1.2 Kenya Perspective

In Kenya, the earliest form of the online filing of tax returns was through the implementation of the Integrated Tax Management System (ITMS) in 2009. This was to facilitate the online payments of Value Added Tax (VAT), Corporate Tax amongst others (Lukorito, 2012). The iTax system was launched in Kenya in the year 2011. The system allows taxpayers to submit their tax documents and monitor tax status through the internet without the need to submit manually. They can also request for compliance certificates and consult actual tax payments online (Wasao, 2014). The iTax system has simplified, hastened and secured the tax compliance process, thus cutting down on the cost of tax compliance in logistics. Continued implementation of the iTax

system in Kenya is has enhanced revenue collection by increasing the tax base and promoting effective revenue administration (Economic Survey, 2015).

Kenya Revenue Authority fully adopted the use of tax system in the year 2014. The itax platform enables a taxpayer to view his/ her tax status anytime and from anywhere (KRA, 2014). Despite all the efforts aimed at inventing a new tax system, these tax systems have remained unnoticed by the public. In addition, they are seriously underused in spite of their availability. Kenya is ranked among low compliance countries with the hard task of ensuring efficient and effective tax administration, in order to ensure tax compliance, hence raising more revenue (Mandola, 2013). Therefore, there is a dire need to understand the acceptance by the users of the itax system and identify the factors that affect their decision to use or not to use the new electronic tax system. This will be of help to Kenya Revenue Authority as it will enable them to promote and plan new forms of electronic tax systems in the future.

The situation in Kenya in regard to revenue maximization by local governments has also been wanting. For example, revenue collected is inadequate to achieve the objectives of self-reliance and structural transformation of the rural environment. Though there are many revenue avenues, there are some aspects of local revenue administration which are not fully operationalized; for instance, only rudimentary assessments of the ratable liabilities are undertaken (Manyasi, 2012).

Since the formation of KRA in 1995, the management has spent time creating taxation systems and adopting new strategies that are aimed at improving efficiency in revenue collection. The functions of the body is therefore to account for the revenues collected in line with the set provisions by the laws and to provide advice on matters related to tax administration and collection of revenue.

KRA has created an integrated tax management system that is aimed at providing effective and efficient services to the Kenyans (Karingi, 2014). The integrated system provides each taxpayer with their personal details and the tax obligations that they are entitled to. The integrated tax system came after the domestic tax department was introduced by the KRA. The system has led to improvement in the provision of services in tax collection. According to Wamugunda (2014). The authority is a 'watchdog' for the Government agencies through the control of exit and entry points with the aim of ensuring that prohibited and illegal goods do not pass through the Kenyan borders (Act of Parliament, Chapter 469 of the laws of Kenya, 1995).

Operations of the authority are run in a similar manner as those of private enterprises. In order to centralize services, KRA is divided into the South Rift Region, North Rift Region, Western Region, Southern Region, Northern Region and the Central Region.

Statistics collected by the Kenya Ports Authority (KPA) showed that traffic for goods on transit to the port of Mombasa which is the main hinterland of the East African region significantly been on the raise from 7.19 million tonnes in year 2014 to 7.66 million tonnes in the year 2015 this illustrates an 8.2 per cent growth (Odhiambo, 2016).

ECTs play such a critical role in curbing dumping and theft of goods in the regional block thereby sealing revenue loopholes. Safety of goods coming into the Kenyan market will be enhanced as the “black market” slowly closes down. Substandard goods will not be poured easily into the market and the consumer will be safe. Use of the system does not only benefit the tax collector and the consumer but it also ensures that a commercial transport rips benefits from its use. The transport is able to monitor the goods they ferry on a real-time basis. This will lead to

less penalties on late deliveries or no deliveries and necessary measures can be taken to ensure that the cargo they are transporting gets to their clients intact and in time.

KRA is committed to technological transformation in tax administration processes. For instance, in the Financial Year 2014-2015, the Board of Directors was committed to increasing the level of automation in the Authority from 90.6% to 92.4%. Similarly, the 6th Corporate Plan seeks to promote uptake of information management systems to increase efficiency and minimize cost of doing business both to the taxpayer and the Authority.

Furthermore, it seeks to strengthen revenue administration capacity by KRA transforming into a single collector and a lead border agency.

This will be achieved through automation of internal processes of the Authority and electronic control of movement of goods into and out of Kenya. Major strides have been made towards automation of processes in various departments. For instance, all the processes in legal services and internal audit departments are fully automated. Similarly, high levels of automation have been attained in Domestic Taxes Department (DTD) (95%), Marketing and Communication (75%), Traffic Revenue Department (TRD) (78%), Investigations and Enforcement (I&E) (78%) Finance (71%) and ICT 59%.

Kenya Revenue Authority has introduced e-filing, e-registration and e-payment systems known as iTax. iTax system is a computing and accounting system for state revenues (levies, taxes) which stores all relevant (credit and debit) data in individual accounts in a data base, and thus helps monitor and control all tax transactions. iTax provides a convenient and efficient way to improve revenue collection, transparency in fiscal administration and management of local and national tax authorities.

It has enabled taxpayers to register for PIN and obtaining PIN certificate online, apply for Tax Compliance Certificate (TCC), file annual returns, amend personal details, apply for refunds, register payments to make online and pay through bank, request for waiver of interests and penalties, access their individual ledger records kept by KRA and in case of any errors can be corrected early avoiding penalties and interests, receive communications and make enquiries online and report challenges online. In conjunction with a personalized taxpayer identification number, the tax authority using iTax can automate most of the levying processes and minimize the scope for tax fraud. Technically, iTax is a completely integrated modular system for taxation with an open source database, which can handle all types of taxes. iTax supports the Kenya Revenue Authority in registration, assessment, collection, accounting, debt management, auditing, tax monitoring, and reporting (iTax case study, 2012).

The Kenya Revenue Authority's iTax system has for months provided effective service to its clients. The system provides an integrated view of a taxpayer, making it easier for taxpayers to access various tax administration services from anywhere, update their registration details, file returns, pay their taxes through mobile payment services (such as M-Pesa, Airtel Money and others), enquire about tax status, apply for a Tax Compliance Certificate and lodge refund claims online in real time, just to name a few (Daily Nation, 2015). In addition, the KRA is now able to identify taxpayers who have traded within the period 2014/2015 and who have not filed returns. The KRA announced it had hit the Sh1 trillion revenue mark for 2014/2015 fiscal year (Daily Nation, 2015).

Some of the services that have been effectively delivered to customers include registration of taxpayers, streamlining of the reporting of data and tax receipts. There are a number of methods employed today by tax agencies to capture tax return and payment data electronically. Additionally, electronic methods are increasingly being used for administrative functions, such as business tax registration, and name and address changes for both businesses and individuals.

1.1.3 Effects of Automation

The effects and contributions of adopting Information Communication Technology (ICT) by organizations have been on a rise in recent times and KRA is not an exception. To this end, KRA has embraced information technology as an enhancement of revenue collection strategy since the year.. However, the anticipated results are most often not realized due to automation challenges that include resistance from employees, cost, lack of standards and policies that govern the automation process.

Besides numerous benefits of automation, customs administration has cost implications, which differ from country to country and according to the initial situation of the Tax administration in terms of available ICT infrastructure, human expertise and the structure of tax administration which impacts on the revenue collection (Peled, 2008, Ward and Dietmar (2007). According to Sykesville (2003), revenue agencies continue to witness tax processing and clearance delays as well as revenue loss, despite its use of computer programmes transfer electronic information required by tax authorities to authenticate tax declarations, accurate assessment of tax dues, increased time efficiency, reduced tax administration cost, and improved effectiveness of revenue collection.

1.1.4 iTax System

iTax system launched in 2011 and implemented by Indian firm Tata, iTax replaces the online system previously used by KRA, which the public has complained about over its inefficiencies.

The web-enabled system that seeks to make tax compliance a simple, quick and secure exercise is expected to bring down the cost of tax compliance in logistics, and help reduce interaction between staff and taxpayers, eliminating bribery claims. This is part of KRA's mission to attain global best practices in tax collection, and the taxman intended to benchmark against nations that have fully automated their system, including the US (Business Daily, 2015). iTax is an improvement of a previous online system by KRA called the Integrated Tax Management System (ITMS), rolled out in 2007, which failed to automate taxation and spawned serious customer dissatisfaction. KRA says that most taxpayers are locked out by inefficiencies and bureaucratic system hence iTax.

With the new system, taxpayers will be able to register, file returns, make payments and enquire about their status, while monitoring their accounts in real-time 24 hours a day, from the comfort of their homes or offices. The system will also eliminate rogue agents who swindle taxpayers by keeping outdated electronic registers of tax agents. To further cut down the cost of taxation, taxpayers will be required to fill their returns offline by downloading the returns form, filling it and uploading it at their own convenience. The system is set to integrate more than 30 banks to ensure that most taxpayers are covered (Business Daily, 2015).

The manual system used before the adoption of itax had a lot of loopholes as compared to the current system which requires tax payers to register, file returns and pay their dues online. The

manual system allowed unscrupulous taxpayers to under declare tax. The automation of all the procedures is good for enhancing the level of compliance and push up government revenue collection.

Professionals who do not declare their taxes as required, it is very easy to identify them using the itax system. This is because, under the itax system there is a lot of corroborating evidence in the declarations made in the tax returns which once is generated, it automatically raising the standards of compliance. For example, Withholding tax system has been significantly changed by itax. (Business Daily, 2015). Manual returns are tedious to file on the part of the taxpayer and difficult to reconcile on the part of KRA hence the adoption of itax system which aims at ensuring accuracy and timely reconciliation of the data contained, as it does automatic reconciliation and validation of the returns. (Muita, 2011).

Throughout the years, the Kenya government has attempted different income tax reforms aimed at enhancing revenue collection (Masinde and Makau, 2010). One of the measures that have been actualized with the goal to expand income tax collection in Kenya was the presentation of self-assessment frameworks (SAS) in 1992. The objectives of this system was to increase voluntary compliance, reduce tax authorities' burden of assessing tax returns and increase tax collection efficiency through reduction of tax collection costs (Masinde and Makau, 2010).

However in spite of different tax reforms, levels of compliance have remained very low. A study led by KRA, KIPPRA and the Treasury, in view 2012 information uncovered that VAT installment consistence was as low as 55% while return lodgment consistence was 65% (Masinde and Makau, 2010). Kenya's tax code is still complex and cumbersome, characterized

by uneven and unfair taxes, a narrow tax base with very high tax rates and rates dispersions with respect to trade, and low compliance.

Additional challenges include tax systems with rates and structures that are difficult to administer and comply with are unresponsive to growth and discretionary policy hence low productivity; raise little revenue but introduce serious economic distortions; treat labour and capital in similar circumstances differently; and are selective and skewed in favour of those with the ability to defeat the tax administration and enforcement system (Karingi, Wanjala, Nyamunga, Okello, Pambah, and Nyakang, 2005). This led to the birth of itax in Kenya Revenue Authority. This is a web enabled system that enables the taxpayer file returns, make payments and monitor their profiles online.

Taxpayers' behaviour towards tax system has evoked great attention among many revenue authorities in the world especially in developed countries. However, it is debatable on what has been done towards the study of taxpayers' behaviour towards tax system in developing countries (Lumumba et al., 2010).

Despite all the efforts aimed at developing better and easier automated systems, these tax-filing systems has remained unnoticed by the public or are seriously underused in spite of their availability. Kenya is ranked among low compliance countries with the hard task of ensuring efficient and effective tax administration, in order to ensure tax compliance, hence raising more revenue (Mandola, 2013). Therefore, there is a need to understand the acceptance by the users of the automated systems and identify the factors that can affect their decision to use or not use these automated systems. This issue is important in that the answer could help the government to plan and promote new forms of electronic tax-filing systems in the future. From this

definition, there are three dimensions of tax compliance: filing, reporting, and payment compliance. Therefore, a taxpayer would be called non-compliant if the three dimensions are not properly accomplished. The aim of tax reforms in many countries is to achieve higher voluntary compliance and one way to do this is by introducing electronic filing system (Khadijah, 2013).

No matter what the justifications advanced, a tax fails to the extent that it is avoided or evaded (Shultz and Harris, 2004). The aim of tax reform in many countries is to achieve higher voluntary compliance and one way to achieve this is by introducing a self-assessment system (SAS) (Khadijah, 2014).

The main aim of electronic filing is to enable taxpayers to meet their normal tax obligations in a convenient manner without visiting tax office. Tax compliance has always been an area of concern to policy makers, tax administrators and society in general. This is mainly because tax compliance affects revenue collection and the ability of the government to achieve its fiscal and social goals (Tan and Sawyer, 2003). Measures to improve compliance include providing excellent taxpayer services that generate better long-term outcomes such as higher tax collection and reduction in the tax gap. The aim of tax reforms in many countries is therefore, to achieve higher voluntary compliance and one way to do this is by introducing electronic filing system (Khadijah, 2013). In Kenya, various taxes are filed and remitted by due dates, which are mandatory dates for either tax returns.

The iTax online system is used to facilitate payment of all income taxes, VAT and excise duty. Additionally, monthly and annual self-assessment returns for these taxes are filed on the iTax online system. Once the payment is made and tax returns filed, the company's iTax ledger is updated

automatically to reflect the company's tax position. The iTax online system also allows for online Personal Identification Number (PIN) registration, amendment of PIN details, applications for waiver of penalties and interest, assessment dispute resolution, application for tax compliance certificates and applications for tax refunds. The system also facilitates e-communication with the KRA.

In the Sixth Corporate Plan, the KRA recognized that its goal was to enable the government of Kenya achieve revenue independence by the year 2018 which would effectively eliminate its reliance on financing its budget deficit through loans. In this Plan, the importance of using technology to enhance tax compliance was emphasized. This was seen as a way to deal with tax evasion and fraud (KRA, 2015). The iTax online system was initially introduced in phases. After successful piloting, it was made a mandatory requirement for filing of tax returns online from 1 August 2015 (KRA, 2015). In essence, this meant that all taxpayers including SMEs, were required to use iTax only and abandon the manual process.

Small companies pose challenges for tax administration by the revenue authorities worldwide, due to their large numbers which translates into huge tax administration costs. Additionally, the nature of the SMEs' transactions also poses a challenge as the SMEs tend to operate in the informal market and domestic market as opposed to the export market, hence making it harder to supervise their tax compliance (OECD, 2009). The KRA does acknowledge the challenges of tax compliance of the SME sector. According to Mungai (2015), the Office of the Commissioner General admits that many SMEs do not register voluntarily, and those who get to register often fail to keep records, file tax returns and settle tax liabilities promptly. In KRA's Fifth Corporate Plan, the revenue authority demonstrated its renewed focus on SME tax compliance.

The corporate plan denoted the SME sector as a sector with a low tax compliance (KRA, 2013). Additionally, in the Sixth Corporate Plan, the KRA noted that SME businesses in Kenya are over 2.7 million and many of these are not registered for tax (KRA, 2015).

Based on the foregoing, it is evident that SMEs are prone to engage in tax evasion. Revenue authorities therefore need to bridge the gap between the huge tax administration costs they incur in ensuring tax compliance of SMEs and also lower the high tax compliance costs incurred by the SMEs. Going forward, the revenue authorities are left with no choice but to look for alternative methods to ensure tax compliance in a bid to minimize tax evasion.

An important point to note is that the iTax online system was introduced at a time when the KRA was under increasing pressure to seal tax loopholes and widen its tax net.

There was also the need to increase efficiency in tax collection procedures by automating these procedures in order to improve revenue inflows from taxes. The iTax rollout also came at a time when there was renewed and specific focus on the taxpayers' tax compliance. The introduction was a welcome initiative, with the KRA aiming to promote equity among taxpayers by standardizing tax procedures. It was also seen as an effective tool for the effective and efficient collection of tax and widening of the tax net to cover more taxpayers, including the SMEs.

An analysis of the achievements so far as per the KRA's Sixth Corporate Plan showed that the use of iTax in tax compliance procedures is still low and underperforming. Underperformance was recorded specifically in electronic filing of annual corporate tax returns individual tax returns and making payments electronically. Some of the reasons put across by the KRA to try and explain the underperformance include late rollout of these modules, Kenyans been ranked poorly compared to other countries on degree of uptake of ICT and inadequate knowledge amongst taxpayers of these functionalities (KRA, 2015). There are many online systems introduced by KRA but the study will focus on iTax system which affect revenue collection in Kenya.

1.2 Statement of the Problem

The prevalence of fraudulent claims is often cited by tax officials as a major reason for delaying compliance of Tax returns. Often, less advanced tax administrations pursue time consuming and labor-intensive processes to verify compliance before approving tax returns compliance, resulting in backlogs of waiting cases of compliant approved tax payers and considerable disquiet among business taxpayers who have been deprived of their working capital (Commercial Taxes, 2010).

Despite other reforms of tax systems through introduction of various tax reforms like electronic tax register ETR, Integrated tax Management System(ITMS),integrated tax Administration system, Electronic, KRA still not achieve its targets. In addition, the practice of tax evasion still presents a serious threat to achieving this goal, and it continues to directly deny the Government its rightful revenue. For example, failure to fully declare the sales receipts of a business enterprise through keeping of parallel records is stealing of Government revenue. This means that the trader does not pay the right amount of Value Added Tax or Income Tax.

Modernization of Kenya's tax system from rudimentary traditional paper filing to computerized online system is compounded by the need to capture data of individuals who have been avoiding taxes. An example is that of businesses in Eastleigh who were operating business which had huge turnover in the amount of Ksh 9 billion a year but were not filling tax returns. Another is that of landlords in Kenya who earn rental income from their properties but were not captured in the tax base (business daily, 2014).

The manual system was also faced by long queues as a challenge experienced mainly during the deadlines of monthly returns. This was a challenge that KRA sought to overcome. This reduced paper work in the offices and saved time to do other organizational tasks. The iTax platform by KRA provides a fully integrated and automated solution for administration of domestic taxes.

Achieving full tax compliance is the ultimate goal of any revenue administration. However the practice of tax evasion still is a big challenge to achieving this goal and continues to reduce collectable taxes that are due to the authority. This often occurs when tax authorities and finance ministry through treasury do not have a suitable forecasting and monitoring systems in place to measure compliance levels. Manual tax administration systems proved to be time consuming and labour intensive process in verifying and approving the compliant taxpayers. This could normally lead to delays in taxpayer registration, capturing of information and returns. Once taxpayers are aware of this they tend to take advantage of the delays and even fail to file returns on time or even make wrong declarations which leads to tax noncompliance.

Delays in taxpayer registration, information capturing also occur when state budgets are under pressure and when tax filling of returns targets is not being met. This often happens when tax authorities and finance ministries do not have suitable forecasting and monitoring system in place to anticipate return compliance levels.

Administrations with more sophisticated forecasting and budgeting capabilities have not been able to predict exact taxpayer compliant levels with a fair degree of precision, given that a pattern of tax returns compliance tends to develop within countries over time. 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 Revenue Administration Reform and Modernization Programme (RARMP) was put in place to ensure that momentum was injected to consolidate the gains that had been made in tax administration, which made enormous strides in ensuring that KRA transformed itself into a modern, fully integrated and client-focused organization (KRA, 2015).

A number of studies have been done on various factors related to tax compliance and small taxpayers but not on iTax and revenue collection. In Germany, Jürgen (2011) did a study on the benefits of a computerized integrated system for taxation. He found that iTax system has cost saving and service improvement effects induced by e-Government. Nevertheless, the use of ICT in government's authorities has achieved better public service delivery. However, he indicates that appropriate technology is necessary but not sufficient. Amongst other activities, long-term political commitment and ongoing monitoring and evaluation are of fundamental importance. Besides, effective plans need to be in place for capacity development and the improvement of technical infrastructure. Committed public administration staff has to be involved in the implementation process to ensure lasting success (Jürgen, 2011).

A sample of small businesses for payment of the value added tax in New Zealand (GST), indicates, that businesses with computerized accounting system report a very minimal amount of time spent on end-of-year tax activities (Ritchie 2011). On the other hand, Rametse (2013) while carrying out the cost implications small taxpayers will encounter on electronic filing, established that, use of electronic filing does not affect the compliance costs, which remained considerably higher for small businesses (2 percent of a turnover of say A\$100,000) than for larger- than small businesses (0.04 percent of a turnover of say A\$2 million).

A study conducted by Aminuzzaman (2010) in Bangladesh revealed that some of the critical institutional challenges facing public service delivery at the level of local authorities include limited manpower and resources. The study did focus on revenue authorities and the public service delivery they offer.

A similar study was conducted in UK by Sarshar and Moores (2006) on improving public service delivery in facilities management and found that lack of strategic awareness, lack of capacity, poor performance monitoring and poor coordination processes were major challenges that hindered public service delivery. In Kenya, Akinyi (2010) looked at the challenges Government institutions face on public service delivery in Kenya. She found that there is a problem of lack of coordination between local authorities and extension service delivery workers of the government at the field level. She did not look at KRA which is the focus of this study. However, Muita (2011), while studying the factors influencing the adoption of public e-filing in Kenya, found out that use of electronic filing will lead to managerial benefits and savings of costs. For example, on-line lodgment and transfers and the greater use of electronic submission and transfers, are likely to reduce compliance costs for small businesses. Furthermore, Wasao (2014) did a study on the effect of online tax system on tax compliance among small taxpayers in East of Nairobi Tax District. He found out that online system enhances compliance as far as filing of tax returns is concerned, with hospitality sector in East of Nairobi Tax District scoring the highest among the sectors analysed.

While a number of taxpayers agreed that with online system payments are more accurate and their tax ledgers get updated in real time, majority however, had reservation with accessibility especially on due dates (Wasao, 2014).

There have been little published empirical studies on the reactions of taxpayers towards online filing system in enhancing Revenue collection. Available studies have been undertaken to explain the effect of electronic tax systems on tax compliance and revenue collection. For instance, In Nigeria, Oseni (2015) concluded that there is no hiding place for tax evaders with the use of this modern technology since all potential taxpayers are captured by the system. He stated that use of ICT can be catastrophic if carelessly employed by both the tax payers and the tax administrators as scammers and hackers of the internet facilities can utilize the ignorance or the lax security of the system. Efunboade (2014) indicated that these emerging global infrastructures (Taxpayer Identification Number- TIN, Factual Accurate Complete Timely- Project fact and Integrated System of Tax Administration- ITAS) could make it increasingly possible for eligible taxpayers to pay tax online anywhere and anytime. The two study studies give insightful information. However, the studies are both done in Nigeria and study in Kenya is necessary to get Kenyan perspective.

Kamau (2014) did a study to determine the impact of adoption of technology as a strategic tool in enhancing tax compliance in Kenya in his study. The study concludes that indeed the adoption of technology does impact on the tax compliance levels of the large taxpayers.

From aforementioned studies, it appears few studies have been done in Kenya on iTax system and revenue collection. The assumption has been that it is a new initiative by Kenya Revenue Authority, which has been done world over, so it will improve revenue collection. There was a gap that needed to fill as the study mainly focused on the large taxpayers of Kenya Revenue authority. The study therefore, sought to fill this gap in knowledge, by reviewing iTax system and revenue collection by Kenya Revenue Authority, Nairobi stations.

1.3 Objectives of the Study

The general objective of this study was to establish the effect of system automation on revenue collection in Kenya Revenue Authority, Nairobi Region.

1.3.1 Specific Objectives

The specific objectives of this study were to

1. To investigate the effect of e-filing on revenue collection in Kenya Revenue Authority, Nairobi Region.
2. To find out the effect of e-registration on revenue collection in Kenya Revenue in Kenya Revenue Authority, Nairobi Region.
3. To determine the effect of e-payment on revenue collection in Kenya Revenue Authority, Nairobi Region.

1.4 Research Questions

1. What is the effect of e-filing on revenue collection in Kenya Revenue Authority, Nairobi Region?

2. What is the effect of e-registration on revenue collection in Kenya Revenue Authority, Nairobi Region?
3. What is the effect of e-payment on revenue collection in Kenya Revenue Authority, Nairobi Region?

1.5 Significance of the Study

1.5.1 Kenya Revenue Authority

The Kenyan government relies heavily on taxes to fund its development expenditure. An increase or decline in tax revenues has a direct bearing on the economy of Kenya as a country. The study is likely to reveal the strengths or weaknesses associated with implementation of new technology and its benefits not only to the authority but also to taxpayers thereby, enriching knowledge to other government institutions planning to embark on similar modernization programs.

1.5.2 Government

The study will reveal the strengths or weaknesses associated with the implementation of new technology and its benefits to other government institutions planning to embark on similar modernization programs.

1.5.3 Taxpayers

The findings will reveal the strengths or weaknesses associated with the implementation of new technology and its benefits to taxpayers.

1.5.4 The future researcher

The findings of the study will also contribute to the existing body of knowledge and may form the basis for further research in the area of technology and revenue collection in Kenya.

1.6 Scope of the Study

The study focused on Kenya Revenue Authority employees in Nairobi Region. Geographically, the study focuses on Kenya Revenue Authority employees in West of Nairobi, East of Nairobi, North of Nairobi and South of Nairobi tax stations. Justification of why the focus will be on this area is that the area is expected to have a high number users of the itax system and hence individual taxpayers should contribute a large portion of the revenue collected.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature on the impact of iTax on revenue collection. It first looks at the theoretical framework and then discusses tax reform in Kenya, and presents an empirical literature based on the study objective.

2.2 Theoretical Framework

This section will discuss tax compliance theories namely; Theory of Planned Behaviour and Benefit Theory.

2.2.1 Theory of Planned Behaviour

Theory of planned behavior is an important theory which presents within the scope of the social psychology and tries to explain human behaviors. The Theory of Planned Behavior (TPB) has been beneficial and measured as one of the models in predicting behaviors (Ajzen, 2011). According to this theory, behaviors of the individuals within the society are under the influence of definite factors, originate from certain reasons and emerge in a planned way (Erten, 2012). Nevertheless, the ability to perform a particular behavior depends on the fact that the individual has a purpose towards that behavior. As for the factors determining the purpose towards the behaviour, they are attitude towards behavior, subjective norms and perceived behavioral control (Erten, 2012). Factors counted above are also under the influence of behavioral beliefs, normative beliefs and control beliefs (Ajzen, 2011).

Intention is the basis of this theory and performance of behaviour or its transformation into a different behavior depend on the intention that the individual has generated towards the behavior. Ajzen, described intention as the factor indicating the degree of individual efforts in order to perform certain behaviour (Ajzen, 2011). Intention is explained by attitudes towards behavior, individual norms and perceived behavior controls (Klee et al. 2009).

Attitude includes the evaluations made by the individual who will perform the behavior regarding the act of that behavior. Subjective norm refers to the opinions of the other individuals who are important for individuals that will perform the behavior or are taken as reference as regards to this behavior. Finally, perceived behavior control specifies the difficulty level of the performance displayed by an individual. This element can sometimes affect the behavior directly. For example, in case the behavior control does not depend on the desire of the individual, in other words, if there is any legal sanction, perceived behavior control can affect the behavior directly. In conclusion, the Theory of Planned Behavior posits that individuals' intentions, together with their perceived control over the behavior determine whether or not they will actually engage in the behavior.

2.2.2 Benefit theory

The benefit approach was initially developed by Knut Wicksell (1896) and Erik Lindhl (1919). According to this theory, the state should levy taxes on individuals according to the benefit conferred on them. The more benefits a person derives from the activities of the state, the more he should pay to the government. This principle has been subjected to severe criticism on the following grounds:

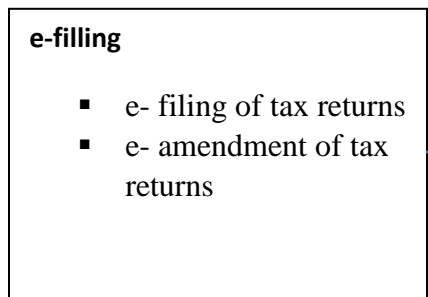
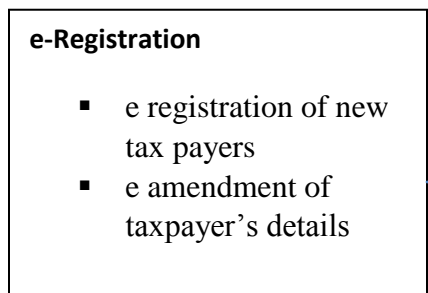
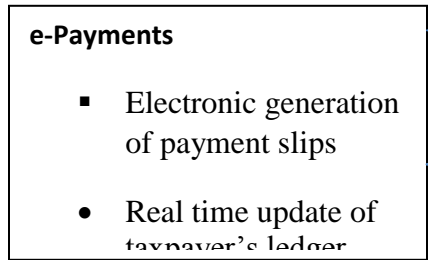
The state maintains a certain connection between the benefits conferred and the benefits derived. It will be against the basic principle of the taxation. A tax, as we know, is compulsory contribution made to the public authorities to meet the expenses of the government and the provisions of general benefit. There is no direct quid pro quo in the case of a tax. Most of the expenditure incurred by the state is for the general benefit of its citizens. It is not possible to estimate the benefit enjoyed by a particular individual every year (Luoga & Makinya, 2012).

If we apply this principle in practice, then the poor will have to pay the heaviest taxes, because they benefit more from the services of the state. If we get more from the poor by way of taxes, it is against the principle of justice? The implication of this theory is that small tax payers may have to pay more taxes than medium and large tax payers.

2.3 Conceptual Framework

This conceptual framework shows the relationship between the dependent variables and the independent variables. The independent variables are e-filing, e-registration and e-payment and the dependent variable is Revenue collection as illustrated in the conceptual framework presented in figure 2.1

Independent Variables



Dependent Variable

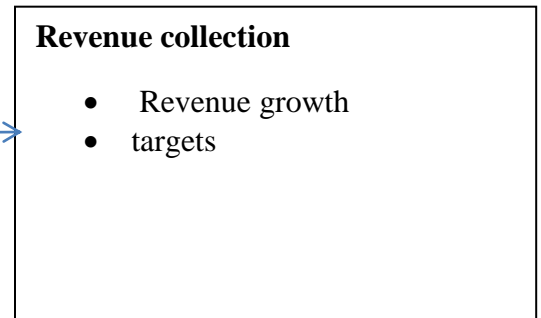


Figure 2.1 Conceptual Framework

Source: Author, 2019

2.4 Empirical Literature

A number of studies both locally and internationally have been done on the role Information Technology plays in Tax compliance. For instance a study of South Korea and Turkey on User evaluation of tax filing web sites was done by Lee et al. (2013), to compare the design and the complexity of the web sites and the ease with taxpayers are able to file tax returns and queries on their tax status. While Turkey had a complex online system, to the contrary Turkish users did not find tax filing system difficult to use and that was attributable to the fact that they relied on accounting professionals to do their tax returns online. On the other hand, South Korean system was considered less complex but few taxpayers were using it as expected. Having in place an electronic tax filing system is one thing, but being able to be used by taxpayers is another thing. This has influence on the current study in a way that the tax website ease of usage must be considered before such a system is rolled out to taxpayers. Other factors to be considered should also be the capacity of the system and the efficiency (Lee et al., 2013).

In Bangladesh, Aminuzzaman (2010) conducted a study about Public Service Delivery among Local Authorities in Bangladesh and found that some of the critical institutional challenges facing public service delivery include limited manpower and resources. The study did not focus on revenue authorities and the public service delivery they offer. Sarshar and Moores (2006) conducted a study in the UK and found that lack of strategic awareness, lack of capacity, poor performance monitoring and poor coordination processes were major challenges that hindered public service delivery. Amitabh et al. (2009) did a study on the antecedents of paperless income tax filing by young professionals in India. The objective of this study was to study how young Indian professionals will adopt or behave towards paperless or online filing of tax returns with

the aim of enhancing compliance. The regression analysis carried out found that the antecedents of young Indian professionals depended on the perceived ease of the tax system, personal innovativeness in information technology, relative advantage, performance of filing service, and compatibility. The implication of the findings to the current study is that for any online system to succeed whether for small, medium or large taxpayers' category there must be the ease of use, innovativeness and accessibility.

In Malaysia, Ling and Nawawi (2010) carried out a survey on Integrating ICT Skills and tax software in tax education. The respondents were the tax practitioners and the study aimed at establishing the necessary skills required by taxpayers to fully utilize a tax online system. The study found that three skills are needed by a taxpayer to interact well with technology based tax system namely, spread sheet software, word-processing software and e-mail. The findings of this study has got implications on the current study in that in analysing the effectiveness of electronic filing system, one must not ignore the mandatory skills that would be users of the system need to have. Failure to consider such skills may make the intention of the system not to be realized as confirmed by Maede (2002). He confirmed that despite the heavy investment that the Malaysian tax authority put in new online system, only 20% of the targeted taxpayers were able to use it after three years of implementation. This was mainly attributed to lack of necessary user skills like computer literacy; however, taxpayer's behaviour also played a role.

In Kenya, especially in Kenya Revenue Authority, different studies have been done on the subject of technology and tax compliance with specific reference to tax filing (Muita and Makanga, 2010). Makanga (2010) did a study on the adoption of technology as a strategic tool for enhancing tax compliance in Kenya.

The case study was based on Large Taxpayers which included companies with a turn over Kshs. 750 million and above, or government ministries and corporations. The objective of the study was to evaluate the role Technology would play in Kenya to enhance tax compliance among large taxpayers. The study found that in the fast changing business world, technology has become part and parcel of any business growth. Either KRA or Large Taxpayers must embrace modern technology to enhance efficiency in tax compliance.

Muita (2010) did a related study on the factors that influence adoption and use of e-filing system among Large Taxpayers in Kenya. The study examined the skills required by the users of e-filing, the technology required and the tax authority's preparedness in enhancing the adoption of tax compliance based technology. The study found that for e-filing to effectively take off in Kenya skills, infrastructure and a conducive business environment are needed. Akinyi (2010) looked at the challenges Government institutions face on public service delivery in Kenya. She found that there is a problem of lack of coordination between local authorities and extension service delivery workers of the government at the field level. She did not look at KRA which is the focus of this study.

2.4.1 e- payment

There have been several studies concerning the electronic tax payments across the globe. Automation of tax payment was first implemented in US. Australia is among the countries that had implemented the system in the management of their municipalities (Turner et al, 2004). However, the purpose of the tax strategy in Turkey is to simplify tax laws and regulations and to harmonize the tax law with European Union law.

The development and utilization of modern technology in revenue mobilization has become a critical feature of every country particularly developing countries. This is as a result of the numerous usefulness modern technology offers in the development of the municipalities. For every tax filing or payment, taxpayers have to log in, select and complete the appropriate forms, sign and submit them digitally. An acknowledgment is received immediately (Turner et al, 2004).

The e-filing system automatically calculates the necessary payment details. It also limits deductions that taxpayers are entitled to base on deduction rules—enabling taxpayers to avoid mistakes that would result in penalties (Doing business, 2014). In many rapidly developing economies, mobile and Internet penetration is often comparatively high. Tax administrations can exploit this infrastructure by introducing electronic channels such as Internet portals, mobile payment options, and ATMs as a powerful lever for improving service levels. By using these channels for simple taxpayer transactions, such as tax declarations and payments, and while conveying a strong sense of its public purpose. Such approaches not only help reduce the length of queues at tax offices, but by so doing remove a barrier to compliance.

They also enable the databases to be of much better quality and, as a result, provide the basis for more effective audit and collection processes in the medium term. (Pereira, Hoekstra, & Queijo, 2013). Seelmann, Lerche, Kiefer and Lucante (2011) did a study Benefits of a computerized integrated system for taxation in Tanzania, they argued that Taxation is often the most important source of state revenue.

2.4.2 e- registration (online)

An accurate central taxpayer registry is paramount for ensuring proper management of taxpayer obligations. In many rapidly growing markets, this task can be especially challenging, as much of the economy is likely to comprise “informal” and small-scale businesses, and the tax authorities lack most of the external controls that ensure a taxpayer stays within the system. Given that such administrations do not have the resources to effectively control all taxpayers, it is all too easy for a potential taxpayer to effectively fall off the radar in these circumstances— either by not registering in the first place or by stopping declarations and to do so without facing any major consequence

Sagas, Nelimalyani and Kimaiyo (2015), did an assessment of the impact of electronic tax register on revenue collection by Kenya Revenue Authority western region, Kenya. Findings from their study indicated that indicated that 75% of the respondents were of the opinion that ETR machines have helped to curb cases of tax evasion 86% of the respondents were of the opinion that ETRs have helped increase revenue collection due to their efficient nature.

(Wang’ombe ,2014)

2.4.3 e-filing

Mandola (2013) defines electronic filing as an internet-based system that enables the taxpayers to register and submit their tax returns over the internet. A number of governments have responded by adopting electronic filing (henceforth e-filing) of taxes. E-filing refers broadly to online submission of tax declarations, typically replacing in-person submission to tax officials. As of 2015, 32 percent of developing countries had introduced e-filing and its prevalence continues to grow rapidly (World Development Report, 2016)

The most common feature of tax reforms reported in the 2015 World Bank Doing Business Indicators was the introduction or enhancement of electronic systems for filing and paying taxes, with 26 economies implementing such changes on e-filing contribute to system-wide efficiency gains by removing the need for physical collection of forms and data entry. Lastly, by making tax information submitted by taxpayers immediately available electronically, e-filing may increase the ease of data analysis for monitoring. (World Development Report, 2016) Electronic filing allows taxpayers to submit their tax declarations online instead of in person at the tax office thereby eliminating the need for time-consuming visits to the tax office and frequent interactions with tax officials (and the potential unofficial behaviors that may arise from these interactions) (Okunogbe, 2017). E-filing or online return filing of income tax refers to successful filing of Tax Returns through the internet or web-based tax systems. Electronic systems for filing returns and paying the due taxes, if accepted and adopted by most businesses and individual taxpayers, result in tangible advantages to both the taxpayers and the government.

The government gains in the form of reduced operation costs such as costs associated with submission, storage and handling of returns in addition to saving time which in turn boosts compliance. The taxpayer benefits from the system is form of reduced calculation errors, preparation and filing time. Furthermore, the tax domain is different from other situations where individuals may choose electronic services over traditional services, such as electronic retail services or online banking because the domain (that is the tax law) is complex and most taxpayers are not experts.

In addition, e-filing introduces the issues of security and privacy protection and taxpayers' dislike and distrust of the tax authorities and the government in general.

Finally, e-filing research provides an intersection of various academic disciplines, namely information systems, public finance, public administration, public policy, and accounting (taxation). (Pippin & Tosun, 2014).

The iTax system has simplified the various tax processes, shortening the time taken to file returns and increased revenue collection. Taxpayers can use the iTax system to file returns for Pay As You Earn (PAYE), Value Added Tax (VAT), Individual annual Income Tax Return (IT1), Corporate Tax returns and agency revenue that includes Sugar Development Levy, Stamp Duty and Kenya Bureau of Standards. (KRA press release ,2015).

2.5 Critique of the Study

Prichard (2010) conducted a study on taxation and state building. The study aimed to compare none automated systems and automated systems in identifying fraud or rogue revenue collectors in United Kingdom. Primary data was collected using structured interview guides with the managers of revenue authorities. Content analysis was used to perform data analysis where the interview responses were structured based on various themes as espoused by objectives of the study. Secondary data were also used to corroborate the results of the interviews by looking at the documents for the reforms and modernization program. The study established that none automated systems of revenue were attributable to problems of tracking and identifying fraud or rogue revenue collectors since they are only compounded by the usage of manual or centralized systems due to the resources and overheads needed to monitor and control such problems.

Kamolo (2014) conducted an analysis of risks that affect value added tax revenue collection by Kenya Revenue Authority. The purpose of the study was to analyze the risks that impact on Value Added Tax (VAT) revenue collection by the Kenya Revenue Authority (KRA). The study was necessitated by the declining VAT revenue despite KRA implementing several innovative strategies to maximize revenue collection. The study was to identify the risks that affect revenue collection and secondly to analyze the impact of those risks as to whether they are high, moderate or low. The sampling technique applied was probability sampling which used stratified sampling. This was important as all elements responsible for identifying risks at every level was captured. The semi structured questionnaires has been administered to the staff. As this is a policy oriented research, the qualitative data analysis method has been used. The study found out that the risks are well understood and identified by the tax managers and some tax auditors. However, the revenue officers who are the majority did not identify the risks adequately as the other groups. The risks do affect revenue collection. The study found out the most of the identified when analyzed has high rate occurrence and high impact on the revenue receivable by the Authority.

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The study therefore, sought to fill this gap in knowledge, by reviewing iTax system and revenue collection by Kenya Revenue Authority, Nairobi stations.

2.6 Research Gap

A number of studies have been done on various factors related to tax compliance and small taxpayers but not on iTax and revenue collection. In Germany, Jürgen (2011) did a study on the benefits of a computerized integrated system for taxation. He found that iTax system has cost saving and service improvement effects induced by e-Government. Nevertheless, the use of ICT in government's authorities has achieved better public service delivery. However, he indicates that appropriate technology is necessary but not sufficient. Amongst other activities, long-term political commitment and ongoing monitoring and evaluation are of fundamental importance. Besides, effective plans need to be in place for capacity development and the improvement of technical infrastructure. Committed public administration staff has to be involved in the implementation process to ensure lasting success (Jürgen, 2011). A sample of small businesses for payment of the value added tax in New Zealand (GST), indicates, that businesses with computerized accounting system report a very minimal amount of time spent on end-of-year tax activities (Ritchie 2011). On the other hand, Rametse (2013) while carrying out the cost implications small taxpayers will encounter on electronic filing, established that, use of electronic filing does not affect the compliance costs, which remained considerably higher for small businesses (2 percent of a turnover of say A\$100,000) than for larger- than small businesses (0.04 percent of a turnover of say A\$2 million). A study conducted by Aminuzzaman (2010) in Bangladesh revealed that some of the critical institutional challenges facing public service delivery at the level of local authorities include limited manpower and resources. The study did focus on revenue authorities and the public service delivery they offer.

A similar study was conducted in UK by Sarshar and Moores (2006) on improving public service delivery in facilities management and found that lack of strategic awareness, lack of capacity, poor performance monitoring and poor coordination processes were major challenges that hindered public service delivery. In Kenya, Akinyi (2010) looked at the challenges Government institutions face on public service delivery in Kenya. She found that there is a problem of lack of coordination between local authorities and extension service delivery workers of the government at the field level. She did not look at KRA which is the focus of this study. However, Muita (2011), while studying the factors influencing the adoption of public e-filing in Kenya, found out that use of electronic filing will lead to managerial benefits and savings of costs. For example, on-line lodgment and transfers and the greater use of electronic submission and transfers, are likely to reduce compliance costs for small businesses.

Furthermore, Wasao (2014) did a study on the effect of online tax system on tax compliance among small taxpayers in East of Nairobi Tax District. He found out that online system enhances compliance as far as filing of tax returns is concerned, with hospitality sector in East of Nairobi Tax District scoring the highest among the sectors analysed. While a number of taxpayers agreed that with online system payments are more accurate and their tax ledgers get updated in real time, majority however, had reservation with accessibility especially on due dates (Wasao, 2014).

From the existing empirical studies, it appears few studies have been done in Kenya on iTax system and revenue collection. The assumption has been that it is a new initiative by Kenya Revenue Authority, which has been done world over, so it will improve revenue collection. The study therefore, sought to fill this gap in knowledge, by reviewing iTax system and revenue collection by Kenya Revenue Authority, Nairobi stations.

2.7 Summary

Prichard (2010) conducted a study on taxation and state building. The study aimed to compare none automated systems and automated systems in identifying fraud or rogue revenue collectors in United Kingdom. Primary data was collected using structured interview guides with the managers of revenue authorities. Content analysis was used to perform data analysis where the interview responses were structured based on various themes as espoused by objectives of the study. Secondary data were also used to corroborate the results of the interviews by looking at the documents for the reforms and modernization program. The study established that none automated systems of revenue were attributable to problems of tracking and identifying fraud or rogue revenue collectors since they are only compounded by the usage of manual or centralized systems due to the resources and overheads needed to monitor and control such problems. Manual collection of payments at several service points lead to delayed customer service with built-in Risk Of manual cash management Minimal payment channels.

Kamolo (2014) conducted an analysis of risks that affect value added tax revenue collection by Kenya Revenue Authority. The purpose of the study was to analyze the risks that impact on Value Added Tax (V AT) revenue collection by the Kenya Revenue Authority (KRA). The study was necessitated by the declining VAT revenue despite KRA implementing several innovative strategies to maximize revenue collection. The study was to identify the risks that affect revenue collection and secondly to analyze the impact of those risks as to whether they are high, moderate or low. The sampling technique applied was probability sampling which used stratified sampling. This was important as all elements responsible for identifying risks at every level was captured. The semi structured questionnaires has been administered to the staff. As this is a

policy oriented research, the qualitative data analysis method has been used. The study found out that the risks are well understood and identified by the tax managers and some tax auditors. However, the revenue officers who are the majority did not identify the risks adequately as the other groups. The risks do affect revenue collection. The study found out the most of the identified when analyzed has high rate occurrence and high impact on the revenue receivable by the Authority.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter covers the methodology that governs the study. It entails the research design, data collection procedures and data analysis. The methods of data presentation are also discussed. This section also discusses the source and type of data to be collected, the model showing the relationship between the independent and dependent variables and the operationalization of the variables.

3.2 Research Design

The study adopted descriptive research design. This design refers to a set of methods and procedures that describe variables. It involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data. Descriptive studies portray the variables by answering who, what, and how questions (Babbie, 2004). According to Tewksbury (2009), descriptive design was appropriate because it was less expensive and could enable the researcher to examine data from a wider area within a short time.

3.4 Sampling Frame

The sampling frame describes the list of all population units from which the sample was selected (Cooper & Schindler, 2013). The unit of analysis was drawn from Kenya Revenue Authority's stations; East, West, South and North of Nairobi stations .

3.3 Target Population

Cooper & Schindler (2003) define target population as the entire group of people events or objects that a study focused on as the subject of analysis. The study targeted Kenya Revenue Authority employees in Nairobi stations. There are four stations namely East, West, South and North. For the employees, the target population will involve 320 employees of Kenya Revenue Authority. From this number, 72 was from the East station, 81 from the West station, 78 from the South station and 89 from the North station as shown in table 3.1.

Table 3.1 Target Population

Station	Target Population
East of Nairobi	72
West of Nairobi	81
South of Nairobi	78
North of Nairobi	89
Total	320

3.4 Sample and Sampling technique

3.4.1 Sample Size

Cooper and Schindler (2003) describe sample or sample size as a subject of a population that is studied through a research study and generalized into the entire populations. The study adopted a systematic sampling technique.

In proportional sampling, the size of each stratum is proportionate to the population size of the strata that was looked at across the entire population. This means that each stratum has the same sampling fraction. Kish (2005) says that 30 to 200 elements are sufficient when the attribute is present 20 to 80 percent of the time (i.e., the distribution approaches normality). Based on this contention, a sample size of 100 employees was regarded adequate in this study. Their distribution is as shown in table 3.2

Table 3.2 Sampling Frame and Sample Size

Type of Enterprise	Target Population	Sample Size
East of Nairobi	72	23
West of Nairobi	81	25
South of Nairobi	78	24
North of Nairobi	89	28
Total	320	100

3.5 Data Collection Instruments

The study adopted primary data. Primary data was gathered directly from respondents by use of a structured questionnaire containing close-ended structured questions through likert scale. The questionnaire consisted of two sections. The first part mainly contained information on the background, which is gender, age and years of experience. This enabled the researcher to know the nature of the department, while the second part focused on iTax system and revenue collection by Kenya Revenue Authority.

3.6 Data Collection Methods

Data collection instruments are tools or methods use to collect data from participants in a study (Cooper & Schindler, 2003). This study adopted primary data. Primary data was collected by use of questionnaires which was administered to the sampled respondents.

3.5.1 Primary Data

This study used primary data collection through questionnaires. The questionnaires used because of its economy, its ability to ensure anonymity and use of standardized questions. It also provides time for subjects to think about responses. The questionnaires was closed ended questions in the form of likert scale.

3.6 Data Collection Procedures

The relevant data collected from the field with the aid of a research assistant, as the questionnaires was distributed on a drop and pick later method to allow the respondents time to sufficiently go through them and give feedback.

3.7 Pilot Study

The researcher carried out a pilot study in order to pre-test the validity and reliability of data to be collected using the questionnaire. Validity is defined as the degree to which a test measures what it is supposed to measure (Key, 1997). The tendency towards consistency found in repeated measurements is referred to as reliability (Bryman & Bell, 2003).

The researcher selected ten respondents from the target population for pilot testing in order to test the validity of the research instrument. The clarity of the instrument items to the respondents is necessary to enhance the instrument's validity and reliability. Furthermore, the aim is to correct inconsistencies arising from the instruments, which are to ensure that they measure the intended result.

3.7.1 Reliability of Research Instruments

Reliability of an instrument is the measure of the degree to which a research instrument yields consistent results or data after repeated trials (Cooper, 2003). Instrument reliability is the dependability, consistency or trustworthiness of a test.

Cronbach's Coefficient Alpha approach was used to measure internal consistency of the research instruments. Cronbach's Coefficient Alpha is a scale measurement tool appropriate in measuring internal consistency in descriptive survey researches as recommended by Cohen, Manion and Morrison (2007). Computation of Cronbach's Alpha was done using statistical package for social sciences (SPSS Version.24)..

3.7.1 Validity of Research Instruments

Kothari (2008) defines validity as a sound measurement that indicates the degree to which an instrument measures what it purports to measure. This study will adopt content validity which is the extent to which a measuring instrument provides adequate coverage of the topic under study. So as to establish content validity and make adjustments to the research instruments, consultations and discussions with the supervisor .

3.8 Data Analysis and Presentation

Qualitative and quantitative approaches was applied in this study as advocated for by Neuman (2000); and Babbie and Mouton (2001). These two main research approaches will be examined with respect to their suitability to the current research.

3.8.1 The Qualitative Analysis

Qualitative data collected through questionnaires was edited and response rate calculated. The data was then categorized into different themes according to research variable and descriptive statistics such as mean, standard deviation and frequency distribution which according to Kothari (2012) measures the point about which items have a tendency to cluster and describe the characteristics of the data collected was computed.

3.8.2 The Quantitative Analysis

Quantitative data from the questionnaire was coded and entered into the computer for statistical analysis.

The Statistical Package for Social Sciences (SPSS version 20) was used for analysis. Regression model, correlation statistics and ANOVA was tested. Regression Analysis is a statistical modeling technique was used to identify meaningful, stable relationships among sets of data. The application of analytical procedures is based on the premise that, in the absence of known conditions to the contrary, relationships among information may reasonably be expected to exist. Regression measures the causal relationship between one dependent and one independent variable. Multiple regression analysis measures the effects of multiple independent variables on one dependent variable.

The study adopted a multi regression model

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$$

Where:

Y = Revenue Collection

β_0 = Constant Term

β_1 = Beta coefficients

X1 = e-payment

X2 = e-registration

X3 = e-filing

ε = Error term

3.9 Measurement of Variables

Table 3.2 gives a summary of research objectives, variables of study, their indicators and level of measurement,

Table 3.2: Measurement of Variables

Table 3.2: Measurement of Variables

variable	Indicators/measures	Likert scale
e-filing	e- filing of tax returns e- amendment of tax returns	5 points
e-registration	e registration of new tax payers e amendment of taxpayer's details	5 points
e-payment	Electronic generation of payment slips Real time update of taxpayer's ledger	5 points
Revenue collection	Timely payment of taxes Timely filling Timely registration	5 points

CHAPTER FOUR

RESEARCH FINDINGS AND ANALYSIS

4.1 Introduction

This chapter presents the research findings and a discussion of the same in line with the objectives of the study as guided by the techniques mentioned in chapter three.

4.2 Response rate

Table 4.1 Response rate

Respondents	Questionnaire Administered	Questionnaire Filled and returned	Percentage
Total	100	82	82%

Mugenda and Mugenda (2003) observed that a 50% response rate is adequate, 60% good, while 70% rated very well. This collaborates with Bailey (2000) assertion that a response rate of 50% is adequate, while a response rate greater than 70% is very good. This implies that based on this assertion, the response rate in this case of 82% is therefore good.

4.3 General Information

The section gives information about the respondents regarding their gender, age category, level of education attained, and work experience in KRA (Years).

4.3.1 Gender of the Respondents

The study requested the respondents to provide their gender. The findings of the study are shown in the table below:

Table 4.2: Gender of the Respondents

	Frequency	Valid Percent (%)
Male	49	60
Female	33	40
Total	82	100

As shown above, 49(60%) of the respondents were male while 33(40%) of the respondents were female. Thus, a large percentage of men were involved in filling the questionnaires as compared to women.

4.3.2 Respondent's Age Category

The study asked the respondents to provide their age category. The findings of the study are shown in the table below:

Table 4.3: Respondent's Age Category

Age Category	Frequency	Valid Percent (%)
25 - 30 Years	7	8.5
31 - 34 years	30	36.6
35 – 40 years	15	18.3
41 – 44 years	3	3.7
45 – 50 years	18	22
Over 51 years	9	10.9

Total	82	100
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From the table above, a large proportion of the respondents 36.6% (30) are of the age category 31-34 years. This is followed by 22% (18) of the respondents who indicated that they are of age category 45-50 years while 18.3% (15) and 10.9% (9) of the respondents are of age category 35-40 years and over 51 years respectively. A small proportion of the respondents 8.5% (7) and 3.7 % (3) indicated that they are of age category 25-30 years and 41-44 years respectively. Thus, the findings indicate that majority of the KRA staff are of the age category 31-34 years who are young and energetic and most of them are technologically savvy thus they can help in the successful implementation of the iTax system.

4.3.3 Respondent's Level of Education

The study asked the respondents to indicate their level of education attained. The figure below indicates the findings of the study:

Table 4.4: Respondent's Level of Education Attained

Level of Education Attained	Frequency	Valid Percent (%)
Secondary	2	2.4
Technical / Vocational	3	3.7
Undergraduate	50	61
Postgraduate	27	33
Total	82	100

From the table above, most of the respondents 61% (50) are graduate degree holders while 33% (27) of the respondents have a postgraduate degree. A small proportion of the respondents 3.7% (3) and 2.4% (2) have attained technical and secondary education respectively. The findings indicate that

majority of the KRA staff are graduate degree holders thus most of them do have basic IT knowledge that is crucial in the *i*Tax system and revenue collection.

4.4 Reliability test results

Reliability is measure of the degree to which a research instrument yields consistent result after repeated trials (Mugenda & Mugenda, 2003). The results are depicted in tale 4.2 below.

Table 4.2: Reliability tests results

Constructs	Reliability Cronbach's alpha	Comment
e-filing	0.773	Accepted
e-registration	0.831	Accepted
e-payment	0.781	Accepted
Revenue collection	0.833	Accepted

The results of the reliability test produced an overall Cronbach Alpha correlation coefficient of 0.801 while specific findings indicated that, e-filing had a coefficient of 0.773, e-registration had a coefficient of 0.831, e-payment had a coefficient of 0.781, revenue collection had a coefficient of 0.833. Table 4.2 shows that all the study variables yielded Cronbach alpha coefficients values of more than 0.7, which is the recommended value.

This indicates that the instrument was reliable to obtain data on determinants of residential rental income tax compliance by property owners.

4.5 Descriptive statistics.

4.5.1 e- filing

The responses were rated on a five point Likert scale where: 5 -Strongly Agree, 4 - Agree, 3 - Undecided, 2 - Disagree, 1- Strongly Disagree. The mean and standard deviations were bred from SPSS and are indicated in the table 4.5

Table 4.5 e-filing

Statements	Mean	Standard Deviation
Filing of returns is simple and easy for tax payers interact with	4.28	0.879
iTax system has enabled KRA to authenticate taxpayer e-returns and assess	3.94	1.131
e-Filing using iTax system has reduced the number of taxpayers visiting the KRA premises to be assisted in filing returns	4.33	0.844
e-Filing using iTax system has enabled KRA to identify defaulters and enforce payment measures	2.43	0.960
e-Filing using iTax has encouraged voluntary compliance among tax payers	2.18	1.086

From the findings, majority of the respondents agreed to great extent that Filing of returns is simple and easy for tax payers interact with , e-Filing using iTax system has reduced the number of taxpayers visiting the KRA premises to be assisted in filing returns, iTax system has enabled KRA to authenticate taxpayer e-returns and assess, with mean scores of 4.28, 3.94, 4.33 respectively. Some of the respondents were undecided that e-Filing using iTax system has

enabled KRA to identify defaulters and enforce payment measures and e-Filing using iTax has encouraged voluntary compliance among tax payers as indicated with a mean score of 2.43 and 2.18 respectively.

4.5.2 e-registration

The responses were rated on a five point Likert scale where: 5 -Strongly Agree, 4 - Agree, 3 - Undecided, 2 - Disagree, 1- Strongly Disagree. The mean and standard deviations were bred from SPSS and are indicated in the table 4.6

Table 4.6: e-registration

Statements	Mean	Standard Deviation
iTax has enabled KRA to monitor taxpayer’s e-registration details and identify inconsistencies	2.86	1.058
iTax system has enabled to tax payers to amend their e-registration details to	2.09	3.254
Since introduction of iTax system the number of VAT e-registration has tremendously increased	3.85	1.091
Registration on iTax has enabled staff to generate a report of the number of tax payers with obligations and are not filing or paying their tax due	3.02	0.945
Registration is simple and easy on iTax hence this has encouraged voluntary compliance.	3.11	0.961

The findings above indicate that the respondents were undecided about iTax has enabled KRA to monitor taxpayer’s e-registration details and identify inconsistencies and iTax system has enabled to tax payers to amend their e-registration details to as indicated by the mean scores of 2.86 and 2.09 respectively.

Majority of the respondents agreed that Since introduction of iTax system the number of VAT e-registration has tremendously increased, Registration on iTax has enabled staff to generate a report of the number of tax payers with obligations and are not filing or paying their tax due and Registration is simple and easy on iTax hence this has encouraged voluntary compliance as indicated by mean scores of 3.85, 3.02 and 3.11 respectively.

4.4.3 e-payment

The responses were rated on a five point Likert scale where: 5 -Strongly Agree, 4 - Agree, 3 - Undecided, 2 - Disagree, 1- Strongly Disagree. The mean and standard deviations were bred from SPSS and are indicated in the table 4.7

Table 4.7: e-payment

Statements	Mean	Standard Deviation
iTax has enabled KRA officers to raise additional assessment with regards to e-payments	3.92	0.970
iTax has enabled taxpayers to see real-time transactions and e-payments details in taxpayer’s ledger account and act accordingly	4.54	0.780
Electronic e-Payment has enabled tax payers to file and pay using their mobile phones	4.30	0.942
iTax has enabled KRA officers to raise additional assessment with regards to e-payments	4.47	0.882
Electronic generation of payment slip has reduced chances of evading payment of tax	4.63	0.653

From the table above majority of the respondents agree that iTax has enabled KRA officers to raise additional assessment with regards to e-payments, iTax has enabled taxpayers to see real-time transactions and e-payments details in taxpayer’s ledger account and act accordingly, iTax has enabled KRA officers to raise additional assessment with regards to e-payments and Electronic generation of payment slip has reduced chances of evading payment of tax as indicated by mean scores of 4.63, 4.54, 4.47 and 4.30 respectively. On the other hand a small proportion of the respondents were undecided on whether iTax has enabled KRA officers to raise additional assessment with regards to e-payments as indicated by a mean score of 3.92.

4.5 Inferential Statistics

4.5.1 Diagnostic Tests

Normality, Multicollinearity and heteroscedastic tests were conducted in order to ascertain the validity of the data used.

Normality Test

To test for normality, the Shapiro-Wilk test was used. The null hypothesis for the test expressed that the residuals are ordinarily disseminated while the alternate hypothesis expressed that the residuals are not ordinarily dispersed. The outcome of the Shapiro-Wilk test is as shown below.

Table 4.8: Test for Normality

	Shapiro-Wilk		
	Statistic	df	Sig.
Revenue Collection	.395	40	.0676

(Researcher, 2019)

The probability estimation of the Shapiro-wilk test for Revenue collection remained at 0.0676. Since the value is more than 0.05, it was assumed that the data set followed a normal distribution hence the study failed to reject the null hypothesis.

Multicollinearity

Multi-collinearity multi-collinearity alludes to the nearness of relationships between the indicator factors. (William, 2013). To test for Multi-collinearity, the study used Variance Inflation Factor (VIF) which was calculated using SPSS. If the VIF is less than 5 (≤ 5) this indicates that no Multi-collinearity exist. If the VIF of greater than 10 ($VIF \geq 10$), This indicates that there exist a Multi-collinearity issue .The findings are as shown below.

Table 4.9 Multicollinearity Test using Variance of Inflation Factor

Variables	VIF
e-registration	2.352
e-filing	2.635
e-payment	3.587
Mean	3.0485

Source: (Research Data, 2018)

The findings revealed that no multi-collinearity existed between the dependent variable and the independent variables. This is because the Variance Inflation Factors for all the variables was less than 5 ($VIF \leq 5$) as indicated above.

Where multicollinearity is missing, the coefficients assessed by the multiple regression models may not change erratically because of any little change in the explanatory variables. The nonappearance of multicollinearity diminishes the reliability of the model and does not influence the individual indicators.

4.5.2 Correlation Analysis

Table 4.10 below presents the results of the correlation analysis.

Variables		Revenue collection	e-registration	e-payment	e-filing
Revenue collection	Pearson Correlation	1			
	Sig. (2-tailed)				
e-registration	Pearson Correlation	0.430*	1		
	Sig. (2-tailed)	0.002			
e-payment	Pearson Correlation	0.371*	0.298*	1	
	Sig. (2-tailed)	0.003			
e-filing	Pearson Correlation	0.567*	0.321*	0.286*	1
	Sig. (2-tailed)	0.000			

The results in Table 4.10 revealed that e-registration and Revenue collection are positively and significantly related ($r=0.430$). The results further indicated that e-payment and Revenue collection are positively and significantly related ($r=0.371$). In addition, the results showed that e-filing and Revenue collection are positively and significantly related ($r=0.567$).

4.5.3 Regression analysis

The researcher conducted multiple regression analysis to establish the effect of system automation on revenue collection in Kenya Revenue Authority, Nairobi Region. The findings are indicated in subsequent sections;

Table 4.19: Model Summary for independent and dependent variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.707 ^a	.505	.453	.71722	2.001

a. Predictors: (Constant), e-registration, e-payment, and e-filing

b. Dependent Variable: Revenue collection

From the model summary The R square value in Table 4.19 is 0.502 which clearly suggests that there is a strong relationship between e-registration, e-payment and e-filing and value revenue collection as indicated in table above. This indicates that e-registration, e-payment and e-filing share a variation of 50.5% of revenue collection in Kenya .

The overall goodness of fit was obtained through regressing the goodness of fit for all the independent variables. The results of the multiple regression indicate $R^2 = .505$ and adjusted $R = .453$ as shown in Table 4.19. This is an indication that there is a strong relationship between independent variables and revenue collection in Kenya.

Table 4.19: ANOVA for independent and dependent variables

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.376	1	5.466	11.338	.000 ^b
	Residual	28.262	155	.513		
	Total	45.629	155			

a. Dependent Variable: Revenue collection

b. Predictors: (Constant), e-registration, e-payment, and e-filing

The overall model significance was presented using the ANOVA test table. The results in Table 4.19 shows that the overall model was a good fit since (F-value=11.338 and p-value=0.000<0.05) for all independent variables meaning that null hypothesis is rejected and concludes that there is a relationship between different independent and dependent variables. The findings there imply that all independent variables were statistically significant in explaining revenue collection in Kenya. ANOVA was used to test whether the regression analysis model used is fit or the relationship of the variable just occurred by chance.

Significance of F ratio is used to determine whether model used was fit or not. If the F ratio is significant the model used is considered fit and vice versa. A P - value of less than 0.05 indicates that the F statistics is high and that the null hypothesis of independent needs to be rejected since it's not true. In this case the F ratio (F=11.338, P=.000^b) was found to be significant hence the model used for analysis was fit

Table 4.20: Coefficients of Overall Regression Model

Model		Unstandardized		Standardize		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	.195	.096	-	2.054	.044
	e-registration	.312	.096	.234	2.266	.016
	e-payment	.241	.098	.355	3.560	.043
	e-filing	.296	.096	.314	3.061	.022

a. Dependent Variable: Revenue collection

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \varepsilon \dots \dots \dots$$

$Y = 0.195 + 0.312X_1 + 0.241X_2 + 0.296X_3 + 0.315$ were significant with p-values of 0.044, 0.016, 0.043 + 0.014, respectively.

The regression equation above has established that taking all factors into account (e-registration, e-payment and e-filing) the findings reveals that assuming other variables are at zero a unit change (increase) in e-registration will lead to a 0.312 increases revenue collection a unit increase in e-payment will lead to a 0.241 increases revenue collection a unit increase in e-filing will lead to a 0.296 increases revenue collection as shown in table 4.20. This infers that e-registration affect revenue collection to a great extent followed by e-filing then e-payment influence to a little extent revenue collection.

The regression coefficient results indicate a positive significant effect between e-registration, e-payment and e-filing and revenue collection.

4.7 Discussion of key Findings

The key findings of the study are discussed in this section as per study objectives.

4.7.1 e-registration and Revenue collection

E-registration was assessed using five measures and the overall mean score or responses regarding e-registration were 2.2 on a 5-point scale which indicates that majority of the respondents agreed that e-registration on revenue collection in Kenya. The average overall standard deviation of 0.7 infers that 68% of the response was spread within one standard deviation of the overall mean. Further collinearity analysis was done and the results showed that

e-registraion had positive and significantly related to revenue collection ($r = 0.456$, $p\text{-value}=0.00<0.05$).

4.7.2 E-payment and revenue collection

E-payment was assessed using five measures and the overall mean score or responses regarding e-payment were 1.6 on a 5-point scale which indicates that majority of the respondents agreed that e-payment affects the revenue collection in Kenya. The average overall standard deviation of 0.0.66 infers that 68% of the response was spread within one standard deviation of the overall mean. Further collinearity analysis was done and the results revealed that e-payment had a positive and significantly related to revenue collection ($r = 0.431$, $p\text{-value}=0.00<0.05$).

4.7.3 E-filing and revenue collection

E-filing was assessed using four measures and the overall mean score or responses regarding e-filing were 2.5 on a 5-point scale which indicates that majority of the respondents agreed that e-filing affects the revenue collection in Kenya. The average overall standard deviation of 0.74 infers that 68% of the response was spread within one standard deviation of the overall mean. Further collinearity analysis was done and the results showed that e-filing had a positive and significantly related to revenue collection ($r = 0.458$, $p\text{-value}=0.00<0.05$).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings of the research, conclusions and the recommendations. The study also gives suggestions for further research.

5.1 Summary of the findings

The findings of the study have been summarized below as per the study objectives. The findings were supported by the frequencies of the responses

5.1.1 e-registration

The first objective of the study was to evaluate the effect of e-registration on revenue collection in Kenya. Methods used to arrive at the findings included descriptive statistics, analysis of variance and regression analysis. The study found out that e-registration had a significant positive influence on revenue collection. The overall mean score of responses regarding tax compliance cost indicated that majority of the respondents agreed that e-registration affects the revenue collection in Kenya.

The reliability analysis results showed that all the coefficients of the constructs were positive and significant.

5.1.2 e-payment

The second objective of the study sought to find out` the effect of e-payment on revenue collection in Kenya. Descriptive statistics, regression analysis and analysis of variance were conducted. The study found out that e-payment had a significant positive influence on revenue collection.

The overall mean score of response regarding e-payment and revenue collection collection indicated that majority of the respondents agreed that e-payment affects the revenue collection in Kenya. Correlation results indicated that there was a positive and significant relationship between e-payment and revenue collection collection. It was therefore concluded that e-payment has significant positive effect on revenue collection.

5.1.3 e-filing

The third objective of the study sought to investigate the effect of e-filing on revenue collection in Kenya. Descriptive statistics, regression analysis and analysis of variance were conducted. The study found out that e-filing had a significant positive influence on revenue collection.

The overall mean score of response regarding e-filing and revenue collection indicated that majority of the respondents agreed that e-filing affects the revenue collection in Kenya. Correlation results indicated that there was a positive and significant relationship between e-filing and revenue collection. It was therefore concluded that tax rate has significant positive effect on value added tax compliance.

5.2 Conclusions

The aim of the study was to determine effect of factors affect revenue collection in Kenya. Data collected and analyzed through both descriptive and inferential statistics established that all independent variables had significant effects on revenue collection.

5.2.1 e-registration

The study found out that e-registration had a significant positive influence on revenue collection . The overall mean score of responses regarding e-registration indicated that majority of the respondents agreed that e-registration affects the revenue collection in Kenya. The reliability analysis results showed that all the coefficients of the constructs were positive and significant.

5.2.2 e-payment

The study found out that e-payment had a significant positive influence on revenue collection. The overall mean score of response regarding e-payment and revenue collection indicated that majority of the respondents agreed that e-payment affects the revenue collection in Kenya. Correlation results indicated that there was a positive and significant relationship between e-payment and revenue collection. It was therefore concluded that e-payment has significant positive effect on revenue collection.

5.2.3 e-filing

The study found out that e-filing had a significant positive influence on revenue collection . The overall mean score of response regarding e-filing indicated that majority of the respondents agreed that e-filing affects the revenue collection in Kenya.

Correlation results indicated that there was a positive and significant relationship between e-filing and revenue collection. It was therefore concluded that e-filing has significant positive effect on revenue collection.

5.3 Recommendations

The study found that there are challenges when trying to use iTax system. The study recommends that KRA should find a way of training users on how to use the system and overcome the challenges of iTax system.

It is evident from the findings that there is a statistically significant relationship between revenue collection and system automation. The government should ensure that knowledge on how to use itax is given to the users in rural areas. The government should also ensure there is internet in all parts of the country for easy access of iTax system by users.

5.4 Suggestion for further research

The study found that there are challenges in the use iTax system. The specifics of the challenges experienced by various users of iTax system were not identified by this study. There is need therefore to carry out a study on the challenges experienced with the use of iTax system in order to overcome and improve the system as a whole which will enhance even the revenue collection by the revenue authority. Further research could also be done to establish how other systems put in place by Kenya Revenue Authority influence revenue collection.

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APPENDICES

APPENDIX 1: LETTER OF INTRODUCTION

Phoebe Chemosop

P.O BOX 10034

NAIROBI

Dear Sir/ Madam,

RE: DATA COLLECTION

I am a post-graduate student undertaking a post graduate diploma in tax administration at Jomo Kenyatta University in the department of Economics, Accounts and Finance. I am carrying out a research on the effect of system automation on revenue collection in Kenya Revenue Authority, Nairobi Region

You have been selected to contribute in my study. This is to kindly request you to respond to fill the questionnaire with honesty and to the best of your knowledge. The information provided will be used solely for academic purposes and be treated with utmost confidence.

A copy of the final report may be availed to you upon your request. Your assistance will be highly appreciated.

Yours faithfully,

Phoebe Chemosop

HDB336-C016-5153/2016

APPENDIX I: QUESTIONNAIRE

PART A: General Information

1. Please indicate the position of respondent in the Authority
 Officer Supervisor Assistant Manager Manager
 Other (Please specify).....

2. How long have you worked in KRA?
 Less than a year 1-5 years 6-10 years 11-15 years 16-20 years More than 20 years

3. What is the name of your work section or department?
 Taxpayer Services Compliance Debt Policy others (Please specify).....

4. How frequently do you assist taxpayers to use the KRA electronic Tax Services?
 Very Frequently Frequently Occasionally Rarely

PART A: e- Payments

1. Please indicate your level of agreement with the following statements regarding the Online Tax Payment process on a scale of 1 - where 1-Strongly Agree, 2 Somewhat Agree, 3-Somewhat disagree, and 4-Strongly Disagree.

Statements	1	2	3	4	5
iTax has enabled KRA officers to raise additional assessment with regards to e-payments					
iTax has enabled taxpayers to see real-time transactions and e-payments details in taxpayer’s ledger account and act accordingly					
Electronic e-Payment has enabled tax payers to file and pay using their					

mobile phones					
iTax has enabled KRA officers to raise additional assessment with regards to e-payments					
Electronic generation of payment slip has reduced chances of evading payment of tax					

PART B: e- registration

Statements	1	2	3	4	5
iTax has enabled KRA to monitor taxpayer’s e-registration details and identify inconsistencies					
iTax system has enabled to tax payers to amend their e-registration details to incorporate obligations when need arise					
Since introduction of iTax system the number of VAT e-registration has tremendously increased					
Registration on iTax has enabled staff to generate a report of the number of tax payers with obligations and are not filing or paying their tax due					
Registration is simple and easy on iTax hence this has encouraged voluntary compliance.					

PARTC: e- filing

2. Please indicate your level of agreement with the following statements regarding the Online Filing process on a scale of 1 -4 where 1-Strongly Agree, 2 Somewhat Agree, 3- Somewhat Disagree, and 4-Strongly Disagree

Statements	1	2	3	4	5
Filing of returns is simple and easy for tax payers interact with					
iTax system has enabled KRA to authenticate taxpayer e-returns and assess tax liabilities					
e-Filing using iTax system has reduced the number of taxpayers visiting the KRA premises to be assisted in filing returns					
e-Filing using iTax system has enabled KRA to identify defaulters and enforce payment measures					
E-Filing using iTax has encouraged voluntary compliance among tax payers					

APPENDIX 111: BUDGET

DESCRIPTION	COST PER ITEM	TOTAL AMOUNT (Kshs)
Stationery		20,000.00
Photocopying papers	10 reams @600/=	
Pens, pencils, rubbers		
Ink cartridge (Printer)		
Files (12 rim binders)		
Personnel		20,000.00
Questionnaires administrators		
Stastician		

Transport and subsistence		20,000.00
Vehicles		
Subsistence allowance		
Communication		20,000.00
Telephone		
Internet		
Other Services		40,000.00
Library services		
Purchase of periodicals and books		
<u>Total expected cost</u>		<u>120,000.00</u>

APPENDIX 1V: WORK PLAN

ACTIVITY (2018)	DECEMBER(2018)	FEBRUARY(2019)	JULY (2019)
Draft proposal			
Proposal presentation			
Designing the research instrument			
Proposal defense			
Field work & data Collection			

Data Entry / Analysis			
Report Writing			
Presentation of 1 st draft			
Presentation of 2 nd draft			
Submission of final report			