TAXATION POLICY IMPLEMENTATION COSTS, MACROECONOMIC FACTORS AND REVENUE COLLECTION IN KENYA

ANTONY WAHOME NDIRANGU

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Taxation Policy Implementation Costs, Macroeconomic Factors and Revenue Collection in Kenya

Antony Wahome Ndirangu

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other University

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

Antony Wahome Ndirangu

This thesis has been submitted for examination with our approval as the university supervisors

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

Prof. Willy Muturi, PhD.

JKUAT, Kenya

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

Patrick Ngumi, PhD.

JKUAT, Kenya

DEDICATION

I dedicate this thesis to my family Joy, Jed and Janelle, thank you for your moral support and encouragement. God bless you.

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ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
ETRs	Electronic Tax Registers
GDP	Gross Domestic Product
GRA	Ghana Revenue Authority
ICPAK	Institute of Certified Public Accountants of Kenya
ICT	Information Communication Technology
IEA	Institute of Economic Affairs
IMF	International Monetary Fund
ITMS	Integrated Tax Management System
KIPPRA	Kenya Institute for Public Policy Research and Analysis
KRA	Kenya Revenue Authority
MSMEs	Micro, Small and Medium Enterprises
PAYE	Pay As You Earn
PIN	Personal Identification Number
SMEs	Small and Medium Enterprises
TCA	Tax Collection Automation
TCC	Tax Compliance Certificate
TITA	Tax Incentives and Tax Automation
TMP	Tax Modernization Programme
TOT	Turnover Tax
TRTA	Tax Regulations and Tax Automation
UNCAD	United Nations Conference on Trade and Development
VAT	Value Added Tax

OPERATIONAL DEFINITIONS OF TERMS

Government Policy	This is used to refer to a law, regulation, procedure, administrative action, incentive, or voluntary practice of governments and other institutions to achieve certain goal(s) by a local, regional or national government of a country (Sümer & Özdikililer, 2020).
Implementation Cost	Refers to operation costs of tax policy implementation (Egbunike, Emudainohwo & Gunardi, 2018).
Revenue Collection	This is the maximum income of a government from all the available sources of taxation, excise duties, customs, or other sources, appropriated to the payment of the public expenses i.e. the collective items or amounts of income of a person, a state, or the return or yield from any kind of property, patent, service rendered (Gitaru, 2017).
Stakeholders Engagement	The process of effectively eliciting stakeholders' views on their relationship with the organization/program/projects (Miles & Ringham, 2018).
Tax Collection Automation	Automation of tax collection is whereby; the manual system of revenue collection is replaced by modern technological machines which are used to collect revenue (Amin, 2013).
Tax Enforcement	System by which Authorities act in an organized manner to enforce taxation laws by punishing tax payers who violate the rules and norms regarding

taxation (Organization for Economic Co-operation and Development, 2018).

Tax policy This refers to the choice by a government as to what taxes to levy, in what amounts, and on whom (Egbunike, Emudainohwo & Gunardi, 2018).

Tax Reforms

The process of changing the way taxes are collected or managed by the government (Swiss Fidel Tax Implementation, 2010).

Taxpayer education This refers to programs aimed at teaching taxpayers about their tax rights, responsibilities and legal requirements. Also refers to the method of educating the people about the whole process of taxation and why they should pay tax (Amaning, Anim, Kyere, Kwakye & Abina, 2021).

ABSTRACT

The government is obliged to collect revenue through taxation to meet its increasing financial expenditures. This study sought to establish the effect of taxation policies Implementation costs on revenue collection in Kenya Revenue Authority (KRA) by examining the effect of the tax policies enforcement costs, tax automation costs, taxpayers' education costs and stakeholders' engagement costs on revenue collections by KRA. The study was based on the Rational Choice Theory, Adams Smith Canons of Taxation Theory, Allingham and Sandmo Theory, Stakeholders Theory, and Theory of Planned Behavior. The study applied casual quantitative research design. The study relied on secondary data that was collected for a period of 26 years from the National Treasury and Kenya revenue authority. Since the study was based on time series data based on costs incurred in implementing different taxation policies by KRA and National Treasury, there was no need of basing the study on any sampling technique. Inferential statistics was done using both correlation and regression analysis which was used to establish the relationship between the variables under the study Diagnostic test for heteroscedasticity, serial correlation, fixed effects and autocorrelation were carried out on the data before fitting the regression model. Regression model was used to test the significance relationship taxation policy Implementation costs on revenue collection in Kenya. The results of regression analysis revealed that Tax Enforcement Costs negatively and significantly affected tax revenue collected by KRA in Kenya. The finding further revealed that Tax Automation Costs had a statistically significant positive effect on tax revenue collected by KRA in Kenya. The findings showed that Taxpayer's education policy costs and stakeholder engagement costs were found to have a positive but insignificant effect on tax revenue collected by KRA. The study concluded that taxation policies Implementation costs are important determinant of taxation policies implementation and hence significantly impact on tax revenue collected by KRA. The study recommended that KRA should be deliberate in budget allocation on implementation of all the taxation policies to enhance their effectiveness of revenue collection. Adopting taxation policies without budget allocation for implementation of same polices affect the tax revenue collection resulting to unrealized targets.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In addition to other practical sources of public funding such as user fees and licenses charged for services supplied by government departments and agencies and foreign aid, taxation is one of the methods governments utilize globally to achieve justice and efficiency in the economy (Avi-Yonah, 2006). Government tax collection heavily rely on the tax laws implemented to obtain the required compliance. However, because of taxpayer noncompliance, developing economies, including Kenya, have trouble generating enough tax income to pay for the growing list of public duties (Marti, 2010).

Structural changes in the economy present challenges for tax policy from efficiency, equity and revenue perspectives. These global trends raise new challenges for policymakers and also affect the tools they have to deal with them. Trade-offs between policy options become more challenging in some instances (see Table 1). Many aspects of tax systems have been designed for the economy of the past and may not always be fit for purpose to support inclusive growth today or in the future. Each country faces differing sets of tax policy and other challenges; reforms that are appropriate for one country may be less relevant in other countries. Reform packages need to be tailored, and sequenced carefully to ensure success (Brys, 2011).

One of the most important policies upon which most economists agree is that emerging nations must increasingly mobilize their own internal resources to provide economic growth. The most important instrument by which resources are marshaled is through the implementation of an effective tax policy. In Kenya, taxes are the single biggest source of funding for the national budget. Tax collection made for 80.4% of overall government revenue between 1995 and 2004 (including grants).

The relevance of non-tax revenue in supporting the public budget is relative, though it is far less important than the role of taxes given that its share over the same period was just 15.1%. Given that they averaged only 4.5 percent, foreign grants had a negligible impact. Given its essential function, taxes have been used to accomplish two goals. First, taxes are utilized to generate enough money to pay for public spending without resorting to excessive borrowing from the public sector. Second, it is employed to maximize revenue collection while minimizing its negative effects on economic activity (Moyi & Ronge, 2006). Tax being a compulsory levy made by tax authorities on income, expenditure, wealth or people (James & Nobes, 2009; Lymer & Oats, 2014), is designed based on various driving policies with intention to collect revenue used in running a country's recurrent budget, developmental budget and paying off public debts.

Several studies (Sheriff, 2014; Olabisi, 2013; Talery, 2013) have suggested that appropriate changes in tax policy can improve revenue collection and ensure that the needed resources are collected for the development agenda of the country, indicated in his for example in the tax gap in Liberia could be attributed to non-tax compliance. He asserts that non-tax compliance, evasion and avoidance have widened the tax gap because it accounts for unpaid revenue (Sheriff 2014). The extent to which the costs incurred in tax enforcement, tax automation, tax payer's education and tax bands policies have contributed to revenue collection by KRA is of research interest.

There is an increasing need by the government to collect much revenue by way of taxes to face the increasing financial expenditures budgeted by the country. Automated systems have been proven to be capable of introducing massive efficiencies to business processes that can result in increased revenue collections (Zhou & Madhikeni, 2013). UNCTAD (2006) in their report indicated that system-based automation approaches are important vehicles for achieving efficiency in tax Implementation. The report noted that automation impacts on the efficiency of tax Implementation. 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, 2007). Kenya as a nation has invested heavily in tax automation to improve its tax Implementation.

In order to achieve high tax collection, tax administrators should establish effective tax enforcement policy. Tax authorities should adopt an appropriate unique taxpayer identification system to facilitate compliance and enforcement. Second, tax authorities need a process for determining tax liabilities by either administratively or by some self-assessment procedure. Better tax enforcement (and, perhaps, better taxpayer education and support services, especially at the lower end of the tax base distribution) is thus one important way to reach many of the SMEs (Nada &William, 2009). Enforcement strategies tend to be applied in a routine manner without taking into account circumstances which may create difficulty for individual taxpayers or for particular industries to meet their taxation obligations (Boame, 2009). The risk of detection of such tax evasion practices can be rather modest in countries with weak tax Implementation enforcement capacity or a high level of corruption in the tax Implementation (Mutua, 2011). Kenya Revenue Authority which is the agency mandated to collect tax on behalf of the government has continuously implement different tax policies to improve on revenue collection.

Slemrod and Yitzhaki (2000) observed that enforcement instruments, including the audit rates and the punishment function, are also determinants of tax compliance, although these variables are rarely available for empirical studies. It is important to note that any individual or organization that falls within the scope of the above income groups, is obliged to pay tax, this can be voluntarily or otherwise. It is within this process that the issues of returns and assessment arose. Every individual or organization liable to income tax for a year of assessment is required to submit returns of his income and other relevant matters to the tax authority having power to assess him to tax. And this is subject to satisfaction of the returns by the Tax Authority (Oyebanji, 2006). Auditing of companies by KRA is an enforcement strategy to enhance revenue collection in Kenya.

To spur tax compliance, two opposite set of tax enforcement approaches are used: the coercive and persuasive approaches (Akhand & Hubbard, 2016). The coercive approach advocates hard actions and the persuasive approach advocates collaborative working with the taxpayers. Little attention has been paid to understand the combined effects of these conflicting approaches. Spurring tax compliance is a commonly experienced challenge for tax authorities in developed and developing countries (Akinboade, 2015). In response to this challenge, which largely depends on taxpayer’s type and size, tax authorities have innovated diverse compliance approaches and techniques. Approaches used to address small and large business tax compliances differ due to the risks they impose and the revenues they provide to the tax system, (Baer, 2002).

Tax enforcement is important policy governments use to achieve the desired tax collection. Taxpayer’s technical support is an effective strategy to strengthen enforcement of tax compliance. Such strategies include organizational reforms such as decentralization, establishing taxpayers’ support desk and Large Taxpayer Units as well as enhancing capacity development through specialized training in filing of returns, tax estimation and self-assessments among others (Brautigam, Deborah, Odd-Helge, Fjeldstad & Mick, 2008). This approach aims at providing technical support to taxpayers so as to improve their compliance with tax obligations.

Large corporate taxpayers, also known as large taxpayers, are responsible for the majority of tax revenues and are crucial to the tax system's need for revenue. Large taxpayers stand out from ordinary taxpayers due to the hazards and complexity they provide to the tax system in addition to the enormous tax revenues they contribute. Tax authorities across the world have created Large Taxpayer Office (LTO) to secure tax compliance of the large taxpayers by employing an approach that tends to rely more on the persuasive than the coercive instruments, (Donnelly & Heneghan, 2010).

One of the best methods to stop tax evasion behavior is tax audit. The number of taxpayers chosen for audit and the extent of the examination are the two factors that determine the degree of a tax audit. The first factor can be quickly calculated by dividing the total number of tax payers by the number of taxpayers who have been audited. The latter, however, is extremely challenging to quantify because of unpublished information regarding the status of tax audits. For practical comparison, it is frequently measured by the first factor to reflect the amount of tax audit (Slemrod, 2000). The relevant tax authorities' review of a person's or organization's tax return in order to determine compliance with the relevant state tax rules and regulations, according to Kircher (2008), constitutes a tax audit. Additionally, he explained that a tax audit is a procedure where the Internal Revenue Service checks the data you provided on your tax return (Kircher, 2008).

In Kenya the audit coverage is less than 1% of the returns filed, this can explain the low levels of compliance especially on tax heads whose audit coverage is low such as Corporation tax and Excise duty. Noncompliance is also enforced as a civic rather than a criminal offence had hereby in most cases the corrective action are penalties rather than jail term. Penalties levied on non-compliance ranges from 20% in areas where there was limited complicity of the taxpayer to 75% in cases where there was willful action on the taxpayer to evade the tax. The new Tax Procedures Act (2015) has harmonized the penalties and interest charged and therefore there can be no observable variance on compliance based on the punishment function across tax heads.

Surplus budgets output and resources spend on audit but may also have other effects that would be normally considered desirable in a wider economic context. By a smart design of audit policy, the authorities can create information externalities that partially offset the informational advantages of industry insider. Since decision in the product market is in the light of the eventual outcome of net after tax expected profits, the audit policy can create a linkage to output decisions. Specifically, it may be possible to nudge firms in the direction of greater efficiency (Amah & Nwaiwu, 2018).

In relation to the impact of registration and tax compliance Fauvelle-Aymar (2016) was interested in examining the relationship between taxpayer registration and compliance and revealed that indeed there was a positive significant relationship between taxpayer registration and tax compliance. His study made recommendations to the government policy makers to ensure that they develop policies on assessment of the possible implication of registration on tax revenues so as to enhance compliance (Fuest & Riedel, 2013). On the other hand, taxpayer liabilities verification is the act of providing checks to see how much taxpayers are supposed to pay in lieu of their various obligations as well as verifying if indeed what is owed by them is what has been declared by the taxpayers through self-assessment (Kaufmann, 2019).

To achieve full compliance on tax there has to be a way of verifying a taxpayer's income and expenditure. This requires more than a mere checking of a taxpayer's books and records. There are direct and indirect methods of verifying the taxpayer's liability. Direct methods rely upon verification of income or expenses especially with regards to the various accounting records or books of accounts which normally taxpayers are required to use whenever they declare their tax returns (Fjeldstad, 2013). Similarly, enforcement of tax laws has been made easy with the entry of new technology which has specifically been designed to assist various authorities to implement tax laws (Moore, 2014).

For instance, the Kenya Revenue Authority (KRA) has been working tirelessly to create technology that supports the implementation and enforcement of tax regulations in Kenya. In order to improve the efficiency with which tax rules are applied and enforced in Kenya, this study concentrated on the most contemporary technology, known as iTax (Ranguma & Mosioma, 2012). Modernizing the system is essential for increasing the effectiveness and efficiency of revenue collecting. There is no doubt that the traditional method of fiscal receipts will always be a crucial component of the implementation system for taxes (UNCTAD, 2008). A tax collection agency will be able to reach their revenue collection goals at the local level through system automation, and there will be less tax evasion and avoidance. The automation of the custom system belongs under the Public Implementation sector, and its goal is to increase effectiveness and efficiency in county governments as well as at the federal level.

Investment in contemporary technologies, such as ICT, is necessary to automate the revenue collection system and improve it to accomplish integration and information sharing, which would increase the system's efficacy and efficiency. To improve accountability and resource absorption, all County sectors should implement an effective and efficient revenue collecting system within a framework that guarantees proper oversight of the budgeted programs and project activities (Amin, 2013). Gidisu (2012) conducted research on the Ghana Revenue Authority's automated system procedure utilizing a case study of the customs division to determine the effectiveness of revenue collection. It was determined that the cost of taxes and the use of automation systems had a favorable relationship the efficiency, automation, and implementation of revenue collecting.

Stakeholders’ engagement policy is used by KRA to assemble all tax stakeholders to establish their level of awareness on taxation, their participation in tax collection. At its inception in 1995, KRA’s general approach to customer service did not have a single view of customers over multiple interactions, with business units developing and implementing independent service delivery strategies. This meant a single customer with various business service needs such as port/border clearance, returns filing, or registration and general queries relied on multiple service points (some geographically distant from each other) to resolve interconnected issues.

Before, the Authority did not also have a corporate framework for engaging key institutional stakeholders in tax policy issues, and had no framework for cooperation with international partners or guidelines for conducting international relations in tax and customs matters. To resolve this, KRA embarked on a revenue Implementation reforms journey to ensure that it created a delighted taxpayer through deployment of an efficient tax service infrastructure and architecture that enhanced customer experience. The Constitution of Kenya also brought with it the requirement of citizen participation or stakeholder engagement in key public policy affairs, including revenue Implementation. Globalization and its effects on international commerce and trade has also pushed revenue Implementation to international limelight, necessitating a framework and tools and mechanics to facilitate KRA’s engagement in international relations.

KRA established the Corporate Stakeholder Engagement Model (SEM) in 2015 to meet this constitutional obligation and deliver customer-led solutions to revenue Implementation issues. The engagement model provides a single point of contact for corporate stakeholders, accentuating KRA's commitment to facilitating efficient resolution of stakeholder concerns. Since its inception, the engagement model has been key in resolving over 80% of stakeholder concerns. This has been achieved through structured and consistent engagements implemented through an open escalation process that is accountable to KRA's leadership (KRA, 2020). Stakeholder expectations on how companies should behave above and beyond legal frameworks are particularly interesting at a time when companies are seen to have the scope to determine how much tax to pay within a certain tax system (Hasseldine and Morris 2013). While businesses may have been able to operate strictly according to the letter of the law some years ago, these days firms are widely expected to act within the spirit of the relevant legislation to meet societal expectations (Hasseldine and Morris 2013).

1.1.1 Taxation Policy Implementation

It is sometimes argued that tax policy can support equity or efficiency but not both (O'Reilly, 2018). Trade-offs between equity and efficiency objectives often exist, whereby policies that reduce inequality may be harmful to growth, and growth-friendly policies can increase inequalities. Similarly, reducing taxes may be beneficial to growth and sometimes to equity, but may conflict with the core objective of the tax system, which is to raise public revenue.

This paper contends that governments can implement tax and transfer policies for inclusive growth in many nations while also bolstering the tax system's ability to raise revenue and assuring the sustainability of public spending. This won't be accomplished by a single strategy, but rather by a careful balancing of trade-offs and policy options. The tax and transfer system may have well-designed individual components, but focusing just on, say, one sort of tax might result in bad tax policy decisions and less-than-ideal economic and social effects (Slemrod & Gillitzer, 2014). More broadly, tax and transfer policy should be considered as part of a broader framework of structural reforms for inclusive growth.

That many such reforms are politically challenging does not make them less necessary. New challenges require new responses. This paper highlights reforms to adapt tax systems to globalization and technological change, particularly with respect to the changing world of work. Raising the quality of public spending is also essential as it gives taxpayers the highest value for their tax money. While comprehensive reform can be difficult, and the ways in which the future will impact the tax system and the economy are uncertain, there is still much that can be done (Slemrod & Gillitzer, 2014).

Macroeconomic policy mostly consists of tax policy. The most crucial component of fiscal policy, along with monetary policy, is regarded to be tax policies (Holban, 2007). The process of altering how taxes is managed or collected by the government is known as tax policy. In order to consistently protect and grow the domestic revenue base, tax policies are a crucial tool (Gituku, 2011). Since the policies aim to lower the incidence of tax evasion by both people and business organizations, they ensure effective tax implementation and enhance taxpayer compliance (Okafor, 2012). Additionally, it should be emphasized that the policies are intended to foster trust among taxpayers as well as KRA tax implementation, particularly through the different seminars that revenue authority officials attend with key partners (Naibei, Oima, Ojera, & Owiye, 2014). The goal of tax policy is to successfully raise money in accordance with each nation's individual characteristics and administrative capabilities (Kanyinga, 2016).

A properly operating tax system is the outcome of considering a country's circumstances before implementing any tax policies. The goal of tax policies is to minimize economic disruption, lessen injustice, and lower tax burden while lowering collection costs and revenue loss. Tax policy primarily aims to increase the effectiveness and productivity of taxation. However, there are conflicting results regarding how tax regimes affect tax productivity.

The major tax policies in Kenya started from mid 1980s under tax modernization programs (TMP) since then the government incurred minimal fiscal deficits and was able to contain its expenditure within the recurrent revenue limits (Moyi & Ronge, 2006). The aim of TMP was to enhance saving and investment, enhance equity, increase on compliance through low and rationalized tax rates, wider tax bases and improve tax Implementation by sealing leakage loopholes (Moyi & Ronge, 2006). The rationale for forming KRA in 1995 was articulated under TMP to improve tax Implementation and implement organizational policies in order to modernize tax Implementation (Karingi & Wanjala, 2005).

Tax policies changes under NARC government (2003-2008) and coalition government (2008-2012) from 2003/04 to 2008/2009, so far have evolved around on ensuring equity, further widening of tax base, promote increase investment and reduce compliance costs. The change includes increase of personal relief by ten percent in 2004/05and threshold turnover for VAT from Kshs. 3 million to Kshs. 5 million from 16th June 2006. An amnesty in 2004/05 on fines, penalties and interest on tax arrears prior to 11 June 2004, whereby the taxpayers were required to disclose and pay under-paid duties and taxes by 31 December 2004 (IEA, 2012).

With effect from 1 January 2008 the government introduced a turnover tax (ToT) at a tax rate of 3 per cent of gross receipts is applicable for businesses with an annual turnover of below Kshs 5 million. In 2008/09, the VAT Act was amended to exempt taxpayers who are subject to the turnover tax (IEA, 2012). The KRA's tax functions were reorganized with ICT driven to aid online self-assessment and to better align them with the other tax policy reforms.

Taxpayer education is a crucial measure that can improve tax collection. A likelihood of compliance is directly correlated with education level. Even while educated taxpayers may be aware of non-compliance prospects, their possible stronger comprehension of the tax code and their higher moral development encourage a more positive attitude toward the tax payer and, as a result, greater compliance (Chan et. al. 2000). According to Chan et al., (2000) persons with higher education levels are also more likely to have more developed moral principles and attitudes toward compliance, which will lead to more compliance. Assuring that taxpayers have a specific level of credentials, skill, and confidence to carry out their tax responsibilities is one way to enhance voluntary compliance (Mohani, 2001).

Comparatively to taxpayers who have never taken a tax course, taxpayers who have taken a tax course should be expected to have higher tax knowledge and a compliance mindset (Mohd, 2010). Because education has an impact on compliance, Hite and Hasseldine (2001) underline the necessity for tax authorities to prioritize teaching tax courses. KRA also apply tax payers' education policy by continuous educating and guiding taxpayers to settle taxes through banks and not KRA counters in order to reduce revenue leakages (IEA, 2012). Recognizing the role that education can play in promoting compliance, KRA has a taxpayer education strategy that is implemented by a dedicated department. As voluntary tax compliance gains an increasingly important place in tax Implementation by KRA, both researchers and practitioners should strive to better understand the effect of taxpayer education on revenue collection by Kenya.

Therefore, taxpayer education may be defined as a strategy for informing the public about the entire taxation process and the reasons behind why they should pay taxes (Aksnes, 2011). It helps taxpayers fulfill their governmental tax duties. This indicates that the main purpose of taxpayer education is to promote taxpayers' volitional compliance. Misra (2004) states that there are three key goals for taxpayer education: provide information on tax rules and compliance, alter taxpayers' tax-related attitudes, and improve tax collection through voluntary compliance. The Taxpayer Education Unit was established in 2005, with the Kenya Revenue Authority (KRA) serving as the primary tax authority. Under the Commissioner for Corporate Support Services, it was originally known as Taxpayer Services. When a section designated with internal and external education was transferred to the Marketing & Communication Division in 2008, it did so. Its duty is to compile and disseminate efficient procedures to taxpayers and stakeholders through advocacy activities.

Depending on their business revenue or income levels, taxpayers in Kenya are categorized as small, medium, or large. Whatever their category, taxpayers in Kenya must pay equal amounts of VAT, PAYE, income tax, withholding taxes, and customs fees. Small and medium-sized businesses (SMEs) constitute the lifeblood of the majority of economies. In most nations, SMEs and microbusinesses make about 95% of all businesses. In Kenya, SMEs are a key component of the economy because they generate income through exports, create new employment opportunities, encourage competition, create jobs, contribute to GDP, support industrial development, meet local demand for services, introduce innovation, and support large companies with supplies and services 80% of the new positions in 2014 were held primarily by SMEs.

In Kenya, SMEs are referred to as micro and small enterprises (MSEs) or micro, small and medium enterprises (MSMEs). Micro businesses are defined as those that employ fewer than ten people and have an annual revenue cap of Ksh 500,000 under the Micro and Small Enterprise Act of 2012. Small businesses have annual revenues of between Ksh 500,000 and Ksh 5,000,000 and employ 10 to 49 employees. Medium-sized businesses, which are estimated to include those with a revenue of between Ksh 5 million and Ksh 800 million and 50 to 99 people, are not covered by the act. In comparison to larger companies, SMEs can gain information more quickly and directly due to their proximity to their consumers.

Despite tax reforms there is considerable revenue leakage with continued existence of untaxed informal sector exhibiting varied tax behaviors relative to formal sector. The taxpayer’s behavior like not keeping records, negative attitudes and influence among the SMEs could have impact on tax compliance (Parliamentary Budget Office, 2011). The turnover tax targeted an additional 20,000 taxpayers and collect Kshs. 1 billion from the SMEs in the first year 2008 but is yet to be achieved. In the year ending 2009, turnover tax performed at 31% with a total of Kshs. 136 million against a set target of Kshs.442. The recruitment totaled 3,517 in 2009/10 and 4,794 in 2010/11 while total revenues for 2010/11 were Kshs. 130 million. During the 2011/12 financial year the target was Kshs. 147 million but however Kshs. 140 million was collected.

Further Mage (2011) on tax Implementation has placed inadequate attention towards this sector and while this sector has continued to record growth yearly but remained unexploited. Between 2002 and 2008 the sector rose from 7.58% in 2002 to 16.61% in 2008 with corresponding increase GDP tax potential percent from 2.52% in 2002 to 7.66% in 2008. Consequently, expanded SMEs' economy had increased revenue potential worth Kshs.63.5 billion in the year 2006, Kshs.69.73 billion in the year 2007 and Kshs.79.27 billion in the year 2008 (IEA, 2012).

According to Masinde (2012) the government will continue losing revenue in billions of shillings and given that SMEs sector continues to grow and level of tax compliance remains low making it difficult for the government to hit its revenue targets... Hence it important to understand effects of tax reforms on SMEs compliance. This creates the need for a proper tax reforms compliance study on SMEs in Kenya, using case of enterprises in Kisumu Town. Specifically, this study will establish how ToT, KRA Implementation reforms and SMEs tax behaviors affect compliance of the SMEs operating in Kisumu town and develop strategies that will improve tax compliance among the SMEs make policy recommendations based on these findings.

Bjork (2013) asserts that successful implementation of tax changes increases compliance and decreases non-compliance, which results in increased tax collection. Tata, an Indian company, implemented the iTax system in Kenya in 2011 to replace the prior online system (ITMS). The system enables both firms and individuals to submit their tax returns electronically, view their outstanding tax debt, keep track of their tax obligations around-the-clock, upload tax files, ask for compliance certificates, and make actual tax payments. To ensure that the majority of taxpayers are covered, the system incorporates more than 30 banks.

The iTax solution has made tax compliance easier, quicker, and safer while also securing the process, lowering the cost of tax compliance in logistics. The iTax system's further operationalization in Kenya is anticipated to increase revenue yield through expanding the tax base, lowering compliance costs, and improving revenue implementation. The KRA M-Service platform, a mobile app that enables tax payments and taxpayers' access to tax information, was also introduced by KRA in October 2014. (Gupta, Keen, Shah, & Verdier, 2017). Informational services and mobile payment of all taxes as well as e-slip production for traffic revenue fees are its two service components. Through the information service, taxpayers can receive particular KRA information by text message.

As of the time of introduction, taxpayers can easily and quickly make payments through their mobile phones totaling up to 140,000 Kenyan shillings each day through the mobile payment of all taxes and e-slip production component. Both the Safaricom M-Pesa and Airtel Money platforms offer the service. The taxpayer keeps the SMS from the mobile financial services provider as proof of payment to the KRA, and the payments are processed, cleared, and deposited to the KRA account instantly. At the individual level, it becomes simpler to return to the M-Pesa platform to make payments and get responses from the iTax system once a tax assessment or fees are set. There hasn't been any empirical research on its impact on voluntary tax compliance, particularly in SMEs.

In addition, Kenya implemented the Turnover Tax (TOT) in 2008 to increase revenue collection, improve tax implementation efficiency, and lower collection costs in the SMEs sector. In comparison to most taxes that are based only on gross income, ToT had an extremely low rate (Muturi & Kiarie, 2015). ToT was assessed at 3% of sales turnover and remitted to the tax department on a quarterly basis. It was intended for businesses with annual sales between Kshs. 500,000 and Kshs. 5 million. The advantages of ToT included streamlined tax processes, reduced tax computation, simple tax return filing, and straightforward record keeping.

All these decreased tax compliance expenses (KRA, 2011). However, this tax has caused regulatory changes because it was difficult for small and medium-sized businesses in the informal sector to self-assess. This led to the presumptive tax on small organizations being presented, which was set at 15% of the amount due under the granted business grant or exchange permission. It was first included in the 2018 financial law, and it started to take effect in January 2019. Its effects on these companies' voluntary tax compliance are still unknown (Muturi & Kiarie, 2015).

Additionally, tax clinics and seminars are gatherings the Kenya Revenue Authority organizes on a regular basis for tax payer education programs in various areas to aid in tax awareness.

The tax education reforms also include the use of tax summits, where diverse industry stakeholders are invited to present their top suggestions for enhancing tax implementation and tax culture (Marita & Sile, 2020). Through monthly seminars, the Taxpayer Education Services attempt to inform newly registered taxpayers. The unit regularly or sporadically hosts lectures and workshops for current taxpayers (KRA Website, 2011). Thousands of Kenyans apply for PIN numbers each year, either for their personal use or for use in their enterprises. PIN registration for taxpayers has been decentralized and powers to do so transferred to self or computer cafés to make the procedure simpler in order to encourage SMEs to obtain PINs. On average, more than 30,000 new taxpayers were registered each month, according to www.kra.go.ke.

However, there is still little research on how this tax reform may affect voluntary tax compliance, particularly in small and medium-sized firms. Another change concerns the need that everyone who want to transact business with the government must possess a tax compliance certificate (TCC). Every person engaging with government offices must present a Certificate of Tax Compliance/Clearance throughout its implementation. Since a person cannot receive a TCC if they are not compliant with filing returns, this will ensure compliance. However, it is dependent on the assistance of other government agencies (KRA, 2015). There was clearly no mention of how this tax reform will affect voluntary tax compliance, especially among SMEs.

The implementation of KRA 24-hour call centers, customer service centers at Huduma centers, mobile centers for tax return filing, and the restoration of WHVAT in September 2014 at 6% are other tax measures that have been enacted during the time period under investigation. In Kenya, withholding VAT was first implemented in 2003, halted in 2011, and then reinstated in 2014. (Nyangau, 2017). It was reintroduced to improve accuracy and draw attention to irregularities in tax submission.

Some SMEs who supply briefcases vanished after doing business with the government, were unable to find, and failed to file returns. When it comes to VAT, the information was provided to KRA, where it was reflected as credits on the taxpayer's ledger, requiring the taxpayer to file VAT reports and disclose all other income. At the end of the year, they will also be required to file an income tax return. However, research demonstrating the connection between these tax measures and SME voluntary tax compliance are lacking, particularly in the Kenyan setting. This emphasized the significance of doing this study in order to draw a firm conclusion about how tax reforms affect voluntary tax compliance, especially among SMEs in Kenya.

One other strategy of achieving higher revenue collection is by the widening of tax bands through appropriate tax band policy. According to Okello (2001) the government should consider widening the tax bracket in its tax reforms agenda instead of relying on tax credits and deductions like tax reliefs as a means to achieving fairness in tax Implementation. This can be achieved by instituting high tax rates for upper income tax brackets alongside the adjustment of tax bands to limit salary increments that are responsive to inflationary pressures without necessarily pushing the citizen’s income to higher tax bands. The impact of tax rates on investment decisions is generally higher on export-oriented companies than those seeking the domestic market or location-specific advantages hence a more positive response to tax incentives (Morisset & Pirnia, 2000).

1.1.2 Macroeconomic Factors

Macroeconomic variables are factors that greatly influence the economic growth (Mwinyimvua, 2018). They deal with the performance, structure, behavior, and decision-making of an economy as a whole, rather than individual markets. These variables affect output, national income, unemployment, consumption, inflation, savings, investment, international trade and international finance (Birungi, 2015). Macroeconomic variables are indicators or main signposts signaling the current trends in the economy. The Gross Domestic Product (GDP), unemployment, inflation, and exchange rates are a few examples of macroeconomic variables.

They have an impact on how much a country's citizens participate in investing activities to bring in money for the government. More favorable macroeconomic conditions are anticipated to have an impact on the factors that determine tax revenue collection, including the degree of tax policy compliance and the implementation of policies. Higher incomes allow for higher levels of savings which in turn are likely to improve tax revenue paid to governments (Muibi & Sinbo, 2013)

Fiscal policy aligning Government income and expenditure is of crucial importance in promoting price stability and sustainable growth in output, income and employment which are important parameters of economic growth. It is one of the macroeconomic policy instruments that can be used to prevent short-run fluctuations in output, income and employment in order to move an economy to its potential level (Behera & Dash, 2018).

This study used three macroeconomic variables namely interest rates, exchange rate and inflation rates to represent economic development and business cycle of the economy in Kenya while examining the implication of taxation policies Implementation costs and tax revenue collection in Kenya. It would be interesting to determine whether the impact of taxation policies on economic development is consistent with Mwinyimvua's (2018) observation that economic growth typically corresponds with an increase in tax revenue collected. Even after accounting for interest rates, exchange rates, and inflation rates, implementation costs are still substantial.

1.1.3 Revenue Collection In Kenya

Kenya Revenue Authority is a creation of an Act of Parliament of 1995 as mandated for tax collection and modernization of taxation system in the country. KRA is charged for tax assessment, collection and enforcement. KRA is a state parastatal under the Minister of Finance. KRA currently collects around 95% of government revenue (Odundo, 2007). In structural realignment, KRA combined it's the five revenue departments; Customs Duty, Excise Duty, Sales Tax, Income Tax and Corporate Tax under one operation. KRA focuses on effective methods of revenue collection so as to meet the country's budget revenue targets. Like the majority of sub-Saharan African nations, Kenya has a very limited tax base. Closing the "taxation gap" and broadening the tax base have been the main goals of current efforts to raise tax revenue. The IMF's primary recommendations have resulted in trade liberalization and the switch from a sales tax to a VAT system (Reurink, 2018). Most African nations have implemented such laws, and Kenya is no exception.

From the time KRA became a parastatal, the agency has achieved growth in revenue collection, management operation efficiency through automation and staff motivation. Despite these modernizations, KRA still run some of its operations manually, although the agency was envisaged to be a fully integrated organization (Kiprotich, Njuguna & Kilika, 2018). In order to achieve its set objectives, the agency must make sure effective resource utilization as justification of its investment. In increasing efficiency in its management, KRA was organized into the following regions; North Region, Rift Valley Region, Western Region, Southern Region and Central Region alongside the following departments; Customs Services Department, Domestic Services Department, Road Transport Department and Support Services Department (Kuria 2016).

1.2 Statement of the Problem

Tax Implementation is very important since it is where government all over the world generate revenue to funds government activities and ensure that services are efficiently provided. Developed government are efficient tax Implementation systems hence have enough funds to provide quality public services. However, in developing country like Kenya revenue collection remains a challenge and majority of the government relies on public debt to fund activities and programmes which is expensive and unsustainable in the long. As an illustration, the Kenya Revenue Authority (KRA) has frequently fallen short of its revenue collection goals. Target revenue collection fell short by 2.5%, 2%, 1%, 1.4%, and 10.4% from 2010 to 2014, respectively. In the year 2016 the treasury reported that Kenya Revenue Authority had collected sh. 811 billion against a target of sh. 911 billion set by the treasury for the period between July 2015 and March 2016. This was a shortfall of sh. 100 billion (11% deficit). Treasury had set a 20.9% revenue growth target for the taxman but

KRA only met about half that target after it posted an 11.7 per cent growth (KRA, 2016). These shortfalls in tax collection have resulted to the prolonged government budget deficit that arises every fiscal year.

In an attempt to increase efficiency in revenue collection, the government has instituted several policy measures. For instance, in the year 2005, KRA adopted a policy requiring the automation of their tax collection and went ahead to introduce Electronic Tax Registers (ETRs) to ensure full remittance of VAT by retailers. This was done to replace the manual paper system of filling tax returns. ETRs enables taxpayer internet-based PIN registration, returns filing, payment registration to allow for tax payments and status inquiries with real-time monitoring of accounts (Ejiku, 2019). The government has moved further to enhance the efficiency of KRA by enhancing the competence of staff through enhancing their recruitment procedures and increasing the training programs and bench marking. On the other hand, the government has strengthened internal control mechanisms, revised their tax incentive policies and tax regulations. However, it is unclear how these policy initiatives' costs have affected the effectiveness of tax collection. This study evaluated the impact of tax policy in an effort to bridge this gap. Implementation costs for the Kenya Revenue Authority's revenue collecting.

In Kenya, not many research has been conducted on Kenya Revenue Authority revenue collection. The relationship between an integrated tax management system and tax compliance was examined in a study by Yuesti (2018). Musya (2014) also conducted research on how internal controls affect Kenyan county administrations' ability to collect taxes. In addition, Ndunda, Ngahu, and Wanyoike (2015) conducted a study to analyze the variables affecting the best income collection by Kenyan county governments, specifically in the case of Nakuru County.

It is clear that none of these studies have examined how the Kenya Revenue Authority's implementation costs for tax policy affect revenue collection. A policy can only be effective when it is implemented accordingly. The implementation process of the taxation policies requires budget allocation therefore this study sought to analyze KRA expenditure on enforcement policy, automation policy, tax payer education policy and stakeholder engagement policies which is a point of departure from previous studies that focused on analyzing the taxation policies from face value. The study therefore addressed existing knowledge and research on the effect of tax enforcement costs, tax automation costs, tax payer's education costs and stakeholder engagement costs and how they affect the revenue collected by Kenya Revenue Authority.

1.3 Objectives of the Study

The study was guided by both the general and specific objectives.

1.3.1 General Objective

The general objective for the study was to examine the effects of taxation policy Implementation costs on revenue collection in Kenya Revenue Authority.

1.3.2 Specific Objectives

The specific objectives for the study included the following;

1) To examine the effect of tax policy enforcement costs on revenue collection by Kenya Revenue Authority.
2) To determine the effect of tax automation policy costs on revenue collection by Kenya Revenue Authority.
3) To examine how taxpayer's education policy costs affect revenue collection by Kenya Revenue Authority.
4) To establish the effect of stakeholders' engagement policy costs on revenue collection by Kenya Revenue Authority.
5) To determine the moderating effect of macroeconomics factors on the relationship between taxation policy Implementation costs and revenue collection by Kenya Revenue Authority.

1.4 Research Hypotheses

H_{01}: Tax policy enforcement costs has no significant effect on revenue collection by Kenya Revenue Authority.

H_{02}: Tax automation costs has no significant on revenue collection by Kenya Revenue Authority.

H_{03}: Taxpayer's education policy costs do not significantly affect revenue collection by Kenya Revenue Authority.

H_{04}: Stakeholders' engagement policy costs have no significant effect on revenue collection by Kenya Revenue Authority.

H_{05}: Macroeconomics factors have no statistically significant moderating effect on the relationship between taxation policy Implementation costs and revenue collection by Kenya Revenue Authority.

1.5 Significance of the Study

This section presents the significance of the current study on management/practice improvement, contribution to policy formulation and finally significance to theory.

1.5.1 Management of KRA

This study provided insights on the impact of costs incurred on implementation of various policies on tax revenue collection. The study findings may be used by finance and accounting department or any relevant department within KRA that is responsible for budgeting process to know which policies have the most significant impact on revenue collection hence informing resources prioritization. KRA management may also adopt the finding of this study when requesting for additional resources to enable effective implementation of the policies enacted by policy makers to improve tax collection.

1.5.2 Policy making

The findings from the study will inform both changes in taxation policies domiciled in the Treasury with a new perspective of synchronizing the two policies in such a way that they both complement target setting and implementation strategies by the assigned agencies. The change in these polices will truly increase tax collection and be the source for financing the public expenditures in Kenya. Such policy changes must be conscious and sensitive to the prevailing macroeconomic environment in such a way that the intended goal of the transformation of the lives of citizens is achieved. In terms of practice, Kenya Revenue Authority which is the main National Government Tax Collection Agent will benefit from the findings from the study in strategy formulation that will make tax collection more focused, being part of source for financing public operations.

1.5.3 Academicians and Researchers

Scholars in the field of economics, public finance and strategic management will benefit from the findings from the study in enhancing their research in taxation, public debt management, international trade and other similar research areas. Researcher in the field of policy making and implementation may adopt the finding of this study as a point of references when justifying the need for further research.

1.6 Scope of the Study

The study looked at how taxation policies affected revenue collection. Costs of implementation, the macroeconomic environment's moderating impact, and Kenya's revenue collection. Specifically, the study analyzed the effect of Tax Enforcement Costs, Tax Automation costs, tax education policy costs and stakeholder engagement costs on revenue collection by KRA. The study was times series oriented by collecting secondary data on Tax Enforcement costs, Tax Automation cost, tax education costs and Stakeholders Engagement costs which were the independent variables and tax revenue collection by KRA which was the dependent variable. The study collected times series on interest rate, exchange rate and inflation rate which were the moderator variables. The data collection covered 1995 – 2020 years, a period of 26 years.

1.7 Limitations of the Study

The study made use of secondary data, which is frequently noisy and has missing values. To acquire the necessary data, however, the study received permission from the appropriate Kenya Revenue Authority official through their data office. The operationalization of the study variables was also constrained by the several taxation policies that affect tax revenue collection. The study relied on the previous studies from other context to determine the most relevant tax policies which were used as the study variables.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presented a discussion of literature relevant to the study. The chapter presented theoretical review forming the basis of this study. On the other hand, the conceptual framework was presented to show the interrelationships between the independent and the dependent variable. The chapter further presented an empirical review, critique of reviewed literature, summary of literature and finally the research gaps.

2.2 Theoretical Review

The study was built on the following theories; Rational Choice Theory, Adams Smith Canons of Taxation Theory, Allingham and Sandmo Theory, Stakeholders Theory, and Theory of Planned Behavior.

2.2.1 Rational Choice Theory

The rational choice theory, debt maturity theory, and economic theory model put out by Allingham and Sandmo serve as the foundation for tax enforcement instruments (1972). Allingham and Sandmo depict tax compliance behavior in their article as a utility maximization choice where a taxpayer will weigh the value of tax evasion against the likelihood of being discovered dodging (paying the correct taxes plus interest and penalties). The rational choice theory utilizes the economic model and proposes that economic action is based on rewards and punishment in which action is motivated by pursuit of balance of rewards over costs. In tandem, in Kenya, underreporting, underpaying or non- paying of taxes due and failure to declare taxes are punishable by imprisonment of up to a maximum of 6 months or a fine of double the tax due or both (Walker, 2017).

The rational choice theory tries to explain the use of enforcement tool in debt recovery and in an attempt to feel the tax gap (as a result of underreporting, underpaying or non- paying of taxes due) and further provide explanation to of deterrence tax evasion schemes. Enforcement tools vary with their level of effectiveness and they include use of agency notice, use of distrain action, charge/security on immovable property and court suit among others. These tools can be used in the recovery and collection of tax debt and ensures that tax due is collected as soon as possible and in full.

2.2.2 Adams Smith Canons of Taxation Theory

This study is based on Adams Smith canons of taxation theory as outlined in his book; “The wealth of Nations.” This theory states that a good tax system is one which is designed on the basis of an appropriate set of principles. The tax system should strike a balance between the interest of the tax payer and that of the tax Authorities. He based his argument on four principles otherwise known as canons of taxation. These are Canon of equity, Canon of certainty, Canon of convenience and Canon of economy. The first canon or principle of a good tax system emphasized by Adam Smith is of equality. According to the canon of equality, every person should pay to the Government according to his ability to pay that is in proportion of the income or revenue. Thus, under the tax system based on equality principle the richer persons in the society will pay more than the poor. On the basis of this canon of equality or ability to pay Adam Smith argued that taxes should be proportional to income, that is, everybody should pay the same rate or percentage of his income as tax, (Ghura, 2008).

However, modem economists interpret equality or ability to pay differently from Adam Smith. Based on the assumption of diminishing marginal utility of money income, they argue that ability to pay principle calls for progressive income tax, that is, the rate of tax increases as income rises. Now, in most of the countries, progressive system of income and other direct taxes have been adopted to ensure equality in the tax system. It may, however, be mentioned here that there are two aspects of ability to pay principle. First is the concept of horizontal equity. According to the concept of horizontal equity, those who are equal, that is, similarly situated persons ought to be treated equally, (Mauro, 2005).

This implies that those who have same income should pay the same amount of tax and there should be no discrimination between them. Second is the concept of vertical equity. The concept of vertical equity is concerned with how people with different abilities to pay should be treated for the purposes of division of tax burden. In other words, what various tax rates should be levied on people with different levels of income. A good tax system must be such as will ensure the horizontal as well as vertical equity, Ghura (2008).

According to Brockington (2008), another important principle of a good tax system on which Adam Smith laid a good deal of stress is the canon of certainty. To quote Adam Smith, ‘the tax which each individual is bound to pay ought to be certain and not arbitrary. The time of payment, the manner of payment, the quantity to be paid ought all to be clear and plain to the contributor and to every other person. A successful function of an economy requires that the people, especially business class, must be certain about the sum of tax that they have to pay on their income from work or investment.

The tax system should be such that sum of tax should not be arbitrarily fixed by the income tax authorities. While taking a decision about the amount of work effort that a person should put in or how much investment should he undertake under risky circumstances, he must know with certainty the definite amount of the tax payable by him on his income. If the sum of tax payable by him is subject to much discretion and arbitrariness of the tax assessment authority, this will weaken his incentive to work and invest more.

2.2.3 Tax Compliance Theory

According to the Allingham and Sandmo tax compliance theory, which dates back to 1972, the government discourages tax evasion by enacting sanctions and conducting audits. When a taxpayer decides that the cost of evading tax is too low and that it is unlikely that they will be caught or subject to an audit, they will choose to break the law and avoid paying their taxes. When a taxpayer believes that the cost of compliance is significant, they are also more likely to avoid taxes. Tax evasion is frequently encouraged by complex and time-consuming tax systems and procedures.

Tax evasion will occur if a taxpayer feels that the tax rate is too high and harsh. The chance of being caught, the severity of the punishment, and the high transaction costs related to tax regulations all negatively correlate with tax evasion.

Allingham and Sandmo (1972) were the pioneers of income tax evasion, where a wise and moral taxpayer increases predicted utility, which solely depends on pay. When caught, the operator is required to pay fines based on the number of unpaid wages. When the tax rate increases, competing salary and substitution effects may result in essentially tax compliance, which is a significant relative static outcome. The substitution effect encourages evasion because the marginal benefit of fraud increases with the tax rate. Contrary to popular belief, the pay impact will often discourage tax evasion since a higher tax rate makes a taxpayer who has reduced their overall risk avoidance feel worse off and hence reduces risk taking. As a result, the overall result is unclear.

In any event, Shlomo Yitzhaki (2002) showed that, all things considered under most existing tax rules, the replacement effect vanishes when the punishment is forced on the measure of sidestepped taxes.

In the first ideal, there is no substitution impact because the penalty for hidden wage increases is proportional to the tax rate. The remainder of the salary effect is responsible for encouraging the taxpayer to commit less fraud. The end result is better compliance as a result. With a ton of fantastic extensions, Yitzhaki's (2002) discovery is possibly the most important finding in the early tax evasion writing. Due to their challenges in adhering to tax regulations, SMEs are more likely to engage in tax evasion. They must adhere to stringent deadlines and maintain accurate books of accounts. Tax evasion occurs in this type of setting. The analysis of tax enforcement policy, in which the government discourages tax evasion through a punishment arrangement and audits, was based on this notion.

2.2.4 Stakeholders Theory

Stakeholder theory was developed by Freeman (1984) and focused on the corporate responsibility’s view related to various categories of stakeholders. This theory emphasizes that the sole responsibility of firms is value creation for all its stakeholders, that is. suppliers, customers, employees and not just its stockholders. Stakeholder theory is normative, instrumental and descriptive (Donaldson and Preston, 1995; Starik & Rands, 1995; Dunphy et al., 2003). Stakeholder theories advocate for some form of corporate social responsibility, which is a duty to operate in ethical ways, even if that means a reduction of long-term profit for a company (Jones, Freeman, & Wicks, 2002).

Stakeholder theory suggests that a firm's obligation is not only to maximize profits but also to increase stakeholder satisfaction. It argues that organizations should balance a multiplicity of stakeholders' interests. It recognizes that firms have obligation to a wide and integrated set of stakeholders (Harrison & Wicks, 2013; Sweeney, 2009). It posits that organizations should treat all stakeholders fairly to improve their performance and competitiveness in the marketplace (Tilakasiri, 2012; Yin et al., 2013).

Stakeholders are constituents who can affect or are affected by the organization's activities. They contribute to the firm's wealth-creating capacity and are potential beneficiaries and risk bearers (Sweeney, 2009). Firms possess both explicit (legal) and implicit (self-enforcing) contracts with various constituents. The key stakeholders in the firm's activities include; employees, suppliers, customers, media, local communities, government, NGOs and environmental activists (Freeman et al., 2010). CSR is most comprehensively studied through stakeholder theory (Chen, 2015; Tilakasiri, 2012). In this study CSR framework was based on selected stakeholders; employees, customers, communities and government.

The strength of this theory unlike the agency theory, is that the needs of all stakeholders are put into consideration with a view to enhance market efficiency. The theory suggests that the performance of corporate cannot be measured only in term of gain to its shareholders but also through other key issues such as information flow, interpersonal relations and working environment.

The weakness of the theory is that most researchers find it to be fundamentally flawed and in violation of every organization proposition of focusing on a single valued objective which is wealth creation or profit maximization for survival. With emphasis on several stakeholders, the managers are tasked with focusing on objectives of the several stakeholders which may lead to confusion and lack of purpose which will eventually affect the company’s competitiveness and survival (Jensen 2001). This theory was important to the research study in analyzing the effect of stakeholders’ engagement policy on revenue collection by Kenya Revenue Authority.

2.2.5 Theory of Planned Behavior

This psychological theory aims to explain human behavior by tying ideas and actions together. Ajzen (1985) presented the idea in an effort to increase the theory of reasoned action's predictive ability by taking perceived behavioral control into account. According to this idea, specific factors that have their roots in specific causes and arise in a planned manner have an impact on how people behave within society. The capacity to engage in a certain conduct depends on the person's motivation for engaging in it (behavioral intention). The three components that affect behavioral intention are attitude toward the conduct, subjective norms, and perceived behavioral control.

The behavioral, normative, and control beliefs all have an impact on these three variables. Therefore, the taxpayer's ethics and morality are the main focus of this approach. According to the notion, a taxpayer may cooperate even if there is a small chance that they may be discovered. Psychological theories place more emphasis on changing people's attitudes toward tax systems than economic theories do, which stress increasing audits and penalties as solutions to compliance concerns. Effect of taxpayers' education strategy on revenue collection performance in Kenya was underpinned by this hypothesis.

2.3 Conceptual Framework

Chandran (2004) defines a conceptual framework as a logically developed, described and elaborated network of interrelationships among variables deemed to be integral part of the dynamics of the situation being investigated. Adrian, (2007) further adds that the major function of a conceptual framework is to position the researcher in relationship to the research. It states the researcher's ideological position from his or her agreement or disagreement with the current discussion and issues. The conceptual framework for the study indicated the relationship between the independent variables and the dependent variable. The independent variables analyzed included; tax enforcement, tax automation, tax payers' education, stakeholders' engagement policies. The dependent variable for the study was revenue collection by Kenya Revenue Authority. The framework was as shown in the figure 2.1.

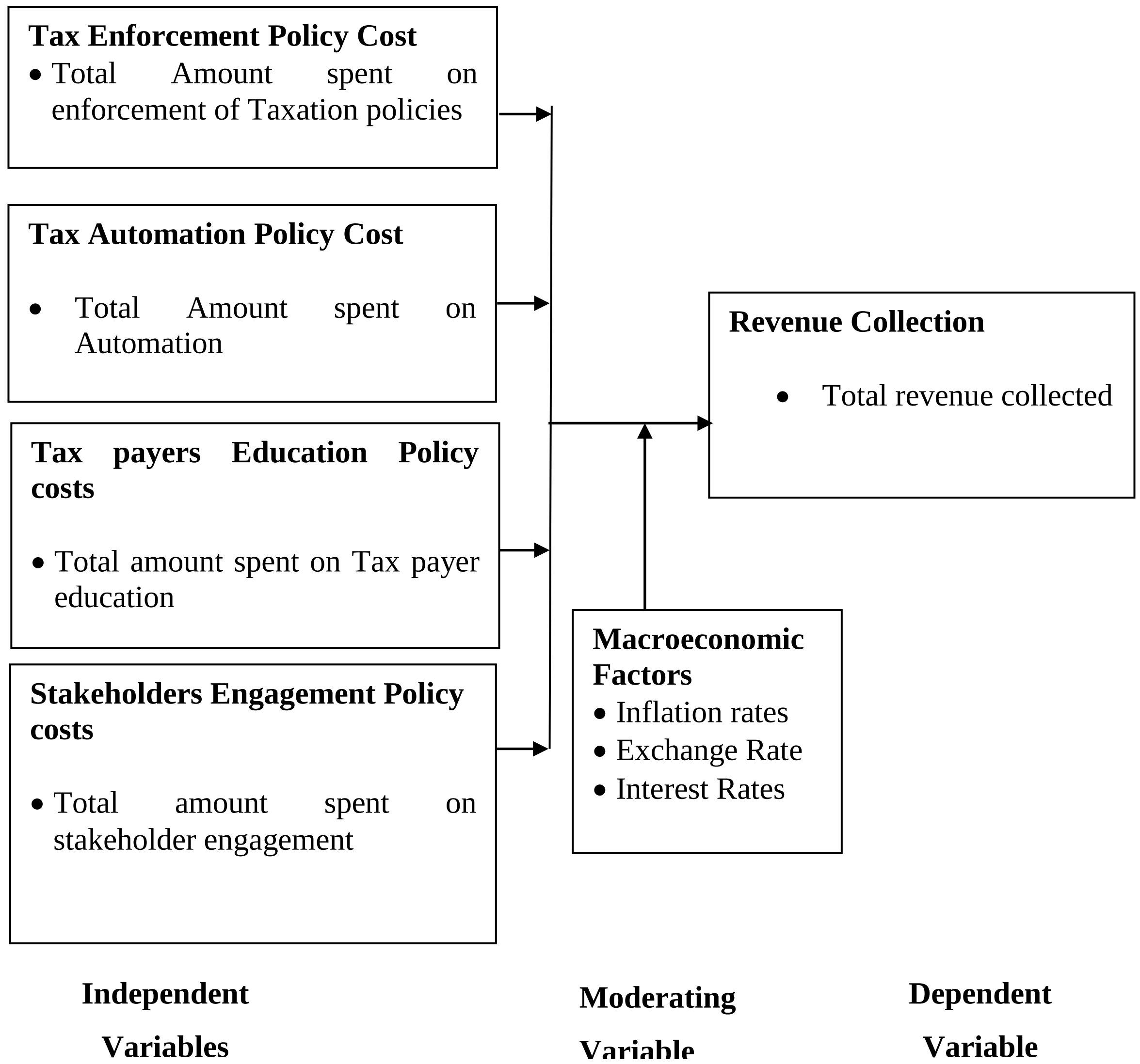

Figure 2.1: Conceptual Framework

2.3.1 Tax Enforcement Costs

Multinational firms can avoid taxes by shifting profits from high-tax countries to low-tax countries. A number of studies suggest that this profit shifting causes substantial losses of tax revenue (Bolwijn et al. 2018, Clausing 2020, Crivelli et al. 2015, Tørsløv et al. 2018). In principle, tax authorities in high-tax countries can attempt to reduce profit shifting by increasing the monitoring of intra-group transactions and enforcing more strongly the rules governing the pricing of these transactions. Moreover, many countries have general anti-avoidance provisions, according to which transactions that are undertaken with the primary goal of avoiding taxes are illegal. This legal framework is a potentially powerful tool to curb profit shifting to sparsely populated, zero-tax countries such as Bermuda, where little real activity takes place. Why, despite the sizable revenue losses involved, does profit shifting nonetheless persist?

Tax fraud is, by its very nature, difficult to measure. Although tax Implementations commonly present estimations of the levels of fraud, the methods used are rarely made public, vary widely, and are often unsuitable (Reurink, 2018). However, whilst the incentive for traders to ensure that suppliers provide them with credit-allowing invoices gives some guarantee that VAT is, to some extent, self-enforceable (Pomeranz, 2015) it is also true that this self-enforceability is somewhat illusory. First, there is some evidence that ‘bad production chains can form; second, and more importantly perhaps, even where bad chains do not form, self-enforceability does not cover all aspects of the production chain and it is precisely at these points, when the elements of self-enforceability are absent, that fraud tends to occur.

2.3.2 Tax Automation Costs

Automation of revenue collection is whereby; the manual system of revenue collection is replaced by modern technological machines which are used to collect revenue. In the Nakuru county government, the application of modern technological machines would enhance efficiency, convenience, and give a higher degree / level of transparency in revenue collections (Amin, 2013) found that automation of revenue collection improved accountability and ease in the supervision of revenue collection officers.

The ability to operate successfully and create good/desired results is improved by automating revenue collection systems. Additionally, automation allows for time savings on payments and the simplification of the payment process, which increases ease of use and promotes transparency (Fjeldstad & Heggstad, 2012). In Sub-Saharan Africa (SSA), electronic tax implementation systems have become more popular in the twenty-first century. This has been prompted by the demand for increased effectiveness and accountability in taxation systems, as well as by the adoption of IT-based tax systems naturally (Organisation for Economic Cooperation and Development [OECD], 2009). The need for improved revenue collection systems and policies in East African countries has been further highlighted by population expansion and requests for openness in tax implementation strategy (Khadka, 2015). In order to lower the cost of tax implementation, provide simplicity of compliance, and ensure accuracy and equity in tax implementation, electronic tax systems are designed.

Ouma (2019) in Kenya looked at the level of tax revenue collections under automated system and non-automated system, the study found that under the un automated system the revenue collection level was low compared to automated revenue collection. Jananga and Owidhi, (2018) carried out a study to determine the effects of automated revenue collection system by Local Authorities in Homabay County. The study established that there is a strong positive relationship between automation and effectiveness in revenue collections.

Oduor, Sevilla, Wanyoike and Mutua (2016) did a study on Automating revenue collections in Kenya: A case of Kiambu County. There was an increase of 60% improvement in revenue collection within the first of the implementation of CountyPro system. Owino, (2017) examined the effect of innovation in revenue collection processes on organizational performance of Nairobi City County. The study further concludes that online receipting process affects organizational performance in Nairobi County. The research established that online payment affected organizational performance in Nairobi County.

2.3.3 Taxpayers Education Costs

One factor that may have an impact on tax compliance behavior is tax education (Musimenta, Naigaga, Bananuka & Najjuma, 2019). According to Alshira'h and Abdul-Jabbar (2019), tax education can improve a citizen's capacity to understand tax rules and preparedness to adhere to them. The effect of tax education on tax compliance behavior has been investigated by various scholars globally. For instance, Newman, Mwandambira, Charity, and Ongayi (2018) found that tax education improves citizens' tax compliance behavior because they are more aware of their responsibilities and the consequences of breaking Ethiopian tax rules. However, there are no research on tax compliance behavior or tax education in Somalia.

Another policy that promotes partnership and voluntary compliance and further maximizes revenue collection for national growth and development as well as extending the tax base is taxpayer education. It offers thorough awareness and information. Taxpayer education has given people a thorough understanding of the tax system and a wealth of knowledge, which has encouraged cooperation and voluntary compliance, further maximized revenue collection for national growth and development, and widened the tax base.

For instance, as of Tuesday, June 30, 2015, at midnight, the KRA's taxpayer recruitment drive, which was centered on online tax filings, had registered about two (2) million iTax users, signaling a new era in the use of information technology systems for tax implementation. This has expanded the tax base and raised the amount of money collected (KRA media briefing, 2015). Greater education may promote compliance because better educated taxpayers are more aware of their responsibilities and the consequences of breaking the law. Education levels become more crucial for boosting tax compliance internationally. Assuring that taxpayers have a specific level of credentials, skill, and confidence to carry out their tax responsibilities is one way to enhance voluntary compliance (Kiani, 2019).

Informing the taxpayers regarding tax laws is a critical element in creating an effective tax framework (Ugwu, 2014). Accomplishing an acceptable amount of compliance may be achieved if citizens can finish an income tax return effectively and pay the suitable amount of tax. To grasp the target of voluntary compliance, citizens must be educated, (especially in tax matters), and their tax proficiency level should be improved relentlessly to keep their data relevant.

Making taxpayer Comply with tax payment has not been easy to for any government. Many eligible taxpayers do not comply with their tax obligations annually which probably emanates from lack of basic knowledge on taxation and low compliance morale. When people are ignorant of tax laws, they will find it difficult to comply with the tax laws, especially in relation to tax computation. They may also be ignorant of how taxation revenue contributes towards funding government's day to day activities. In order to have citizens with the basic knowledge on taxation laws, and how taxation revenue contributes to development, taxation education is therefore imperative (Ugwa, 2014).

Tax education plays an essential part in making tax compliance a morale issue by persuading citizens that when they pay taxes, they are paying themselves (Likhovski, 2017). Because of an awareness of how taxation education impacts compliance behavior, taxation is currently a course in schools in Japan, and not just at the college level (NTA, 2016). Making it a compulsory course of study will provide the younger generation with the basic tax knowledge (Wicaksono, Abbas & Tjen, 2021). Ugwa (2014) found that Taxation education impacts the basic tax knowledge of those who attended the classes. Findings also show that the lecturers interviewed are of the opinion that inclusion of taxation course in the syllabus of non-accounting students can go a long in changing the mindset of the taxpayers. The study recommends the inclusion of ethics in the principles of taxation and tax morale case studies. There is a limitation in this study from not using a greater number of respondents during the survey.

2.3.4 Stakeholders' Engagement Costs

According to Osman (2017) the term stakeholder engagements has continued to evolve as a way of explaining a wider, comprehensive, and progressive process between an organization and the affected that encompasses series of approaches and practices throughout project life. Meaningful engagement occurs when organizations identify key stakeholders in their operational environment and chose to establish relations with them as a means to improve organizational performance and programming. Developing and sustaining good relationships with stakeholders allow organizations to improve risk management and exploit new opportunities. Members of the community will be expected to assist if implementers create permitting conditions where opinions of the locals are expressed and the public is actively involved (Osman, 2017).

Stakeholder engagement normally happens when an organization demand inputs from groups affected by its decision to weigh in their views on projects design and execution approaches (Mohammed & Sagwa, 2020). If stakeholder management is not well expressed in the project, unanticipated challenges will pop up in implementation resulting from stakeholders. For example, a distinct and complete definition of project successes and failures might not be identified, and thus the project manager may attempt to attain objectives that were not proposed by the stakeholders (Mohammed & Sagwa, 2020).

A study by Osman (2017) on Information Sharing among Humanitarian Organization in Kenya highlighted the absence of appropriate information governance, policy and guidelines protocols necessary to facilitate sharing and handling of information. Further, while the study found evidence of information, it recommended theneed for organizations to belong to and collaborate with established networks to enhance organizational information sharing. In addition, the study noted the centrality of having well laid out communication strategies that facilitate easy access to data held by one humanitarian agency by other humanitarian actors. This study only focused on the influence information sharing among humanitarian organization in Kenya therebypresenting conceptual gap.

2.3.5 Macroeconomic Factors

According to Birungi (2015) macroeconomic variables are such factors that are pertinent to a broad economy at the regional or national level and affect a large population rather than a few select individuals. It is often argued that Government revenue is determined by some fundamental macroeconomic variables such as GDP, exchange rate, inflation rates and unemployment which are closely monitored by the government, businesses and consumers. Macroeconomic is a branch of economics dealing with the performance, structure, behavior, and decision making of an economy as a whole. The foundation of macroeconomics is microeconomic. While microeconomics is the branch of economy which is concerned with the behavior of individual entities such as market, firms and households, it consists of individual entities. Revenue collection is very important for every Government in the world as it enables the Government to acquire assets which are not liable to debt and which Government uses to develop its economy.

Serem, Robert and Phillip (2017) noted that mobilizing more revenues is a priority for the most sub-Saharan African (SSA) countries. Countries have to finance their development agendas, and weak revenue mobilization is the root cause of fiscal imbalances in several countries. However, raising revenue is not an end in itself. Government has to provide more of essential services such as better health care, education, and infrastructure. Raising revenue is a way to create fiscal space, increase priority spending, and reduce dependence on budget support, which is not without limits. Collecting revenues, however, poses challenges for developing countries. Low domestic resource mobilization is associated with structural factors that can be difficult to influence in the short to medium term such as low income, demographic factors, and underdeveloped financial markets (Oyinlola, Adedeji, Bolarinwa & Olabisi, 2020).

A variety of macroeconomic variables such as inflation, public debt, and grant affect Government revenue mobilization. Inflation is a proxy indicator for the quality and stability of country’s macroeconomic policies. This captures the direct impact it exerts on tax collection through its effects on consumption, investment and related tax categories (Mawejje, 2019). Higher inflation rates lead to public demoralization, lowering tax compliance, thus lowering the amount of revenue collected (Keller, 2020). Overall, inflation generally has negative impact on Government revenue mobilization.

2.2.6 Revenue Collection

Funds received by any organization are considered to be part of revenue collection (Gitaru, 2017). It can be described as the compulsory tax collections forced on the populace in the context of the KRA. This entails the physical or computerized collecting of tax money from taxpayers. Domestic sources of tax revenue include Value Added Tax (VAT) and Income Tax, as well as customs sources like import duties. The government also receives money from non-tax sources like fines, penalties, and aid appropriations. Over 95% of the government's conventional revenue comes from taxes, which are the country of Kenya's greatest source of income (KRA, 2015). The focus of this study will be domestic tax collections, which will be quantified in Kenyan shillings.

The source of government spending and a key factor in fiscal policy is collected revenue. KRA is responsible for collecting money for the government in Kenya. Since 2014, Kenya has used the iTax technology for electronic revenue collection. This system was implemented to minimize instances of tax avoidance and evasion, boost revenue collection, simplify tax filing and implementation, and lower compliance costs. The KRA has observed increases in tax income since the start of modernizing tax procedures. Over the previous ten years, this has increased by 15% on average. For the fiscal year (FY) 2014/2015, KRA received Ksh 1 trillion in tax revenue.

2.4 Empirical Review

This section reviews empirical literature from previous scholars on the determinant of revenue collection.

2.4.1 Tax Enforcement Costs and Revenue Collection

In the context of tax reforms, Ouma (2019) examined the productivity of Kenya's tax system with an emphasis on the pre- and post-reform periods. They evaluated the elasticity and buoyancy of both individual taxes and the entire tax system in the study. Even though the impact of the reforms was not always consistent, their findings revealed that tax reforms had a positive effect on the overall tax structure and on the individual tax burdens. The fact that direct taxes were affected more by the revisions than indirect taxes suggests that revenue leakage is still a significant issue for indirect taxes. Despite adopting Nyaga's (2019) paradigm, the current study diverges from it in important respects. Comparatively to the current study, which examined tax enforcement policy proxy, this analysis was based on metrics such as direct taxes rather than indirect taxes.

According to the tax/GDP ratios and the proportion of various taxes in the total tax revenue, Tyce (2020) assessed the impact of tax reforms on tax revenue and its composition in the pre and post adjustment periods. They found in their study that tax yield successfully increased even before the significant tax reform initiative, reaching an average peak of 19.7% of GDP by the early 1980s. However, this tax yield was still insufficient when compared to the expenditures as a percentage of GDP. Therefore, they contended that since one of the TMP's main goals was to increase tax yield on a zero-deficit strategy to match expenditures that were, on average, 28 percent of GDP, this goal was never achieved and the best tax yield performance occurred between 1993/4 and 1997/8, when it increased to 24.4% of GDP.

According to Nyakundi (2018) the government should consider widening the tax bracket in its tax reforms agenda instead of relying on tax credits and deductions like tax reliefs as a means to achieving fairness in tax Implementation. This can be achieved by instituting high tax rates for upper income tax brackets alongside the adjustment of tax bands to limit salary increments that are responsive to inflationary pressures without necessarily pushing the citizen’s income to higher tax bands.

According to Sebele-Mpofu and Chinoda's study from 2019, tax evasion is a real global phenomenon that cuts across all social structures and political ideologies. It also occurs in all countries and economic systems. There are numerous studies that explain tax compliance behavior in more practical circumstances. They concentrate on the economic and non-economic aspects that determine tax compliance. All governmental and tax agencies are concerned about tax non-compliance, and it is a problem that needs to be solved. The basic problem that all tax authorities face, regardless of time or location, is that getting every taxpayer to follow a tax system's rules has never been simple.

Residential real estate investors frequently have to self-assess, self-report their income, and pay taxes "out of their pocket" in contrast to the majority of employed persons, who in many countries are paid net wages with taxes deducted at source." In addition to paying their income taxes, real estate investors also need to account for various company taxes like corporate taxes, property taxes, and payroll taxes. They also need to collect sales taxes like VAT and withhold taxes like personal income taxes if they have at least one employee (Christensen & Fagerberg, 2021).

Aribaba, Oladele, Ahmodu and Yusuff (2019) believes that to improve and sustain a significant level of tax compliance, demands focus on long-run tax reform initiatives. To achieve this, authorities may be required to start with reinforcing the structure and management of the tax collection agency, developing and applying dynamic collection procedures (e.g., remittance and withholding procedures) and also reinforcing the ability of the essential tax management functions (registration, filing and payment enforcement, debt collection, audit, taxpayer services, and processing of appeals). Agbo and Udeh, (2019) assert that change of the legal infrastructure and judicial processes is also considered essential in ensuring that the required controls, penalty systems, and procedures adopted to settle any emerging differences should be in place. It is fundamental to note that advancement in technology and investment in sophisticated communication systems, is playing a crucial role in tax conformance Implementation. For instance, automatic collecting of third-party data as a by-product of natural transactional processes; application of electronic bills to enhance in-time transaction monitoring and verification; and evaluation of uncertainties related to tax revenue).

Allingham and Sandmo (2012) developed a theoretical economic model that essentially proposes that fines, penalties as well as fraud detection possibilities always have a direct influence on taxpayer compliance. It is believed by this model that the greater and punitive the penalty is and the greater the possibility to detect fraud, the higher the level of discouragement to tax evasion behaviors. When heavy costs are imposed on any detected attempt to evade tax, it becomes more expensive for the errant taxpayers and has a greater impact of deterring them from any future attempts of evasion. Empirically, the preventive impact of penalties and fines could not always be supported. The manifestation of this situation is the fact that the negative effects witnessed are weaker than expected and some studies even assert that increased penalties may have disagreeable impact and may lead to greater incidences and preference by taxpayers to evade tax (Olsen, et al. 2018).

Alm and Malézieux (2020) in their findings and submissions support the position that costs of tax avoidance greatly affect tax compliance although the experienced impact was nearly insignificant. However, Kwok and Yip (2018) propose that tax compliance is highly influenced by the severity of associated costs such as fines and penalties than as opposed to detection possibilities. The most extreme penalties will have no effect, if it is common knowledge that audits virtually do not occur. The increasing tax avoidance and tax resistance due to an increase of fines puts into question how fines should be assessed to be effective. On the one hand fines should be high enough to decrease the expected value of tax evasion and to assure its deterrent effect on tax payers. On the other hand, if fines are too high, the tax system would be perceived as unjust and unfair and taxpayers would use any possibility to legally avoid taxes (Kwok & Yip, 2018). A number of research findings however, have fundamentally failed to with the discouraging effects of fines and termed them as insignificant. Other related studies have proposed that a policy based on deterrence can only be successful if it is accompanied by regular and thorough tax Audits (Kwok & Yip, 2018).

2.4.2 Tax Automation Costs and Revenue Collection

Governments are under more and more pressure nowadays to enhance the efficient delivery of public services.For instance, tax authorities are using e-government led technologies like electronic tax filing (e-filing) to address this difficulty (Ajape, Afara & Uthman, 2017). ICT use in business and tax contexts is widespread as of now. Notably, tax authorities all around the world are interacting with the paying public in tax collecting, implementation, and compliance settings by means of electronic tax implementation systems. The way we work, play, and engage with others has all been impacted by technology. In both industrialized and emerging nations, interest in using technology to increase the efficiency of tax implementation, expand taxpayer services, and improve tax compliance has grown (Obert, Rodgers, Tendai & Desderio, 2018).

According to Mwendwa (2020) electronic tax system forms part of the revenue collection reforms by Kenya Revenue Authority whose main motive is enhancing tax collections and tax efficiency and thus, tax revenues have been increasing rapidly due to the country's rapid economic development accelerated by the new systems In this regard, the planning and formulation phase of an elaborate electronic system strategy was done in the KRA Corporate plan of 2003 and was implemented in the fourth corporate plan of 2009. KRA has a centralized Information Communication Technology (ICT) department that provides support services in terms of electronic systems to the entire organization all these to try and achieve its goals for achieving increased revenue collection and facilitating voluntary compliance by taxpayers (Mwendwa, 2020).

According to Defitri and Fauziati (2018) computer-generated returns, transmitted electronically, generally are easier to process than paper returns; since the information on the forms doesn't have to be keyed in, number by number, by IRS staff into the Service's computers hence there is less chance of errors. Electronic transmittal is instantaneous, bypassing the frustrating vagaries of the postal system and the client receives confirmation within a day or two that the return not only was received by the IRS, but was received accurately.

In recent years, the policy discussion has given increased attention to electronic revenue collection in developing nations. Madegwa, Makokha, and Namusonge (2018) suggested that recent developments in public taxation emphasize the need for creating an online-based system of tax assessment and collection. Several factors explain this, including the potential benefits of taxation for state building; independence from foreign aid; the fiscal effects of trade liberalization; the financial and debt crisis in the "West"; and the acute financial needs of developing countries. The difficulty that governments in underdeveloped nations have in raising tax income leads to a discrepancy between what they could raise and what they actually do. One of these issues, according to Kinyua (2019), is the adoption of cutting-edge technologies and more effective tax payment procedures in order to cut waste. One of the technologies he cites is the electronic tax system, which the Kenya Revenue Authority has so far adopted.

However, from an American experience, electronic tax systems' biggest advantage, from the taxpayer's point of view, is that it shortens the time for refunds from an average of 12 weeks to about 3 weeks. Refunds can even be deposited directly into taxpayers' bank accounts. As an added incentive, some vendors that provide electronic filing services for tax preparers also offer a service in which clients due a tax refund can apply for an immediate bank loan equal to the expected IRS check. As a result, a client could receive the refund (less bank and preparer fees) within three days of the filing (Kananovich, 2018).

Different literatures points out ICT use to be extremely beneficial; Barungi (2018) attests that, the use of ICT enhances timely access to accurate and relevant information, which is a prerequisite for good planning, programming, implementation as well as monitoring and evaluation which forms the key component in development; Kiema (2017) shows that, ICT use has led to high level organizational growth; and yet Barungi (2018) reveals two facts, first; ICT has the capacity to increase productivity and create more cost effective output with the same or less inputs and second; Development of ICT applications for business use alter the approach organizations function and eventually, improve their services as well as products. What these scholars are trying to emphasize is that; the spread of ICT use in various sectors brings new opportunities for economic growth and development. The study did not analyze the effect of tax automation on the relationship between government tax policy measures and revenue collection in Kenya Revenue Authority.

The effect of electronic tax systems on tax implementation in Nigeria was examined by Daniel and Esther (2019). He claimed that the decline in the price of crude oil, Nigeria's main source of income, was to blame for the declining world fortune. The study found that electronic tax systems play a significant role in the increase of internally generated revenue in Nigeria by ensuring compliance and thereby boosting productivity and economic activity in the nation. However, the challenging task of increasing internally generated revenue necessitates the adoption of electronic tax system technologies to drive Tax Implementation. It is a catalyst for increased growth and the eradication of poverty in Nigeria and the entire African continent. The major recommendation from their study was that necessary laws and regulations have to be passed by the appropriate authorities to reduce or abolish import taxes on information technology hardware such as computers, Servers, printers, biometric scanners and other devices.

Lokarach and Rugami (2019) conducted a study that sought to find out the influence of electronic tax filing on tax collection and compliance in Uganda. He found out that with the commencement of an e-filing system (e Tax) in June 2009, at least UShs 7 trillion worth of revenue resulting from 1.4 million payments has been receipted through electronic tax payments. This revenue is a result of over 360,000 tax returns that have been received online. He made the recommendations that the tax authority should upgrade the e tax servers, incorporate user friendly features to improve tax payer’s interest in the use of the system and embark on a country wide sensitization program to enhance the adoption of the system.

In evaluating performance of Kenya Revenue Authority, the Kenyan National Treasury Ministry found out that there are other problems such as the failure to utilize the personal identification number (PIN) assigned to each taxpayer. It certainly does not help the taxpayer to have so many numbers and codes, even though taxes and other payments are made to the same government agency. Having a good system would enable Kenya Revenue Authority to interact with taxpayers through an integrated computer interface, saving not only time but also increasing compliance, as the PIN facilitates follow-up. With these systems, it would also become easier to consolidate payment of all taxes and levies (GOK, 2013). These studies underpinned the importance of tax automation in tax Implementation for optimum revenue collection which was also of interest to the current study, which is the literature gap the current study's results has availed as knew knowledge.

The elements that enable the effective deployment of technology as a tool to improve tax compliance were examined by Duncan (2020).

In his research, he came to the conclusion that three elements are necessary for achieving this goal: a flexible information technology structure, a solid client focus, and an IT skill base. In an attempt to assess the impact of using technology as a strategic tool to improve tax compliance in Kenya, Kamau (2014) found no evidence of such an impact. Gitaru (2017) conducted research to examine how the KRA automation system affected revenue collection. The data showed that once the process was implemented, the volume of transactions significantly increased. A significant amount of imported goods was sorted out and processed through the centralized Document Processing Center as a result of the automation of revenue processes (DPC). The results also showed that when the Simba system was adopted, the amount of money collected increased cumulatively.

Azmi et al. (2016) used questionnaires to identify the variables impacting small and medium size firms' adoption of e-filing tax systems in Malaysia. The study used the technology acceptance model to assess the perceived risk of e-filing system adoption. Samples were collected from Malaysian citizens who paid taxes. Study results indicated that the key factors influencing the adoption of such systems were a confluence of regulatory requirements, system complexity, and compatibility. The effect of information technology on the collection of taxes by Kenyan local authorities was researched by Otieno et al. in 2013. They discovered a high efficacy between such methods and higher revenue collection in a survey of 1942 taxpayers and 165 tax officials. Particularly, a significant correlation of 0.97 was found between revenue collection and internal control systems. In contrast, the current study used panel data to determine the impact of tax automation costs on KRA's performance in revenue collection.

Research on the effectiveness of i-Tax for tax implementation in Kenya was undertaken by Barako (2015). The study used correlational research design and secondary revenue data collection to determine a relationship between the variables being investigated. The analysis came to the conclusion that there is a strong link between the amount of money taken in and the introduction of iTax. Barako came to the conclusion that iTax is effective in collecting taxes. In Uasin Gishu County, Maisiba and Atambo (2016) examined the effectiveness of revenue collection using electronic tax systems. A case study was used in the study, and questionnaires were used to gather information from a sample of 102 respondents. The study discovered that iTax adoption in Kenya was still being hampered by underlying issues, despite revenue officials in Kenya having received thorough training on the country's e-filing system. These issues were primarily related to how simple the system was for users to use and how low computer literacy levels were across the board in Kenya prior to the complete adoption of electronic tax implementation systems. To improve system effectiveness, they suggested that the KRA conduct civic education. In contrast to the current study, which examined the impact of tax automation costs on revenue collection performance, this study examined the difficulties in the adoption of electronic tax implementation systems in Kenya.

Mburugu and Gakera (2016) on their study entitled Determinants influencing revenue collection on the performance of Kenya Revenue Authority established that that organization resources, corporate governance, ICT adoption and tax regulatory framework were the key determinants influencing revenue collection performance at Kenya Revenue Authority. The study also concluded that ICT adoption, followed by tax regulatory framework, then organization resources and lastly corporate governance practices determines revenue collection performance.

Muthini (2020) also conducted research on the effects of automation as a structural change strategy on Kenya Revenue Authority's customs clearance procedures. This study aimed to determine how automation affected clearance processes in the KRA's customs service division. The goal of the study was to determine whether automation has improved the efficiency of service delivery in the customs service department and whether it has improved the abilities of Kenya Revenue Authority employees and other stakeholders; what impact the improved skills have had on performance at the customs department, to establish if automation has brought about improvement in effectiveness of customs clearance procedures, to establish if automation of customs clearance procedures has resulted in cost saving, to establish if automation has improved governance in the customs department. The research study concluded that with the introduction of the Trade X-Simba system in the customs department, there has been improved efficiency, improved effectiveness, improved staff skills, reduced costs and improved governance.

Gitaru (2017) reviewed the relationship between automation and customs tax Implementation using empirical evidence from Uganda. The results and evidence from the Uganda Revenue Authority (URA) suggested that whereas automation leads to efficiency of tax Implementation, this was rejected as automation had not led to efficiency through cost reduction, reduction of clearance time and effectiveness. The implications were that URA achieved the computerization of customs tax Implementation at an increasing rate of costs due to incomplete automation of all the systems. Secondly, the impact of automation on the clearance time of cargo meant that the computerization of customs tax Implementation at URA failed to fully solve the delays in the clearance time, hence, not realizing the purpose of automation.

Ershaid and Nawash (2021) did a study on information security threats and E-government initiatives at the Kenya Revenue Authority (KRA). The study had three main objectives. First it was to establish the security threats on e-government initiatives in the KRA. Secondly it was to establish the factors that facilitate security threats to e-government initiatives in KRA. Thirdly it was to determine the influence of security threats on e-government initiatives in the KRA. The study found out that software bugs, spamming and identity theft are the most common threats at KRA.

Ritei (2021) carried out a study to examine the influence of technology in tax Implementation and established that technology in taxpayer registration is an essential tool as it leads to enhanced efficiency. The study was able to reveal that the registration of taxpayers by way of tax systems and new technology helps to eliminate errors that will otherwise be committed in the absence of such technology. In addition, the use of technology in taxpayer registration allows for tax personnel to effectively handle more than one task through the integration of a number of procedures into one information system so as to enable easy operation ability. This therefore enhances compliance by taxpayers because they can be able to compile all there in formation in one user interface and thus it because easy to manipulate any data so as to make it useful.

2.4.3 Tax Payers Education Policy Costs and Revenue Collections

Andarias (2016) carried out a study to analyze how taxpayer registration affects tax compliance and was able to establish that indeed taxpayer registration is an important tool if properly used, this is primarily because taxpayer registration enhances tax compliance. In addition, the study was able to establish that taxpayer registration can as enhance problem solving among taxpayers. He further recommended that technology adoption by taxpayers needs to be encouraged because it is the only way through which compliance 27 by registration can be achieved easily. In this regard therefore the study recommended the need for tax officers and those in charge of technology adoption in their respective offices to put in place strategies that will enhance technology adoption by taxpayers. The current study on the other hand analyzed the effect of taxpayers' education policy cost on revenue collection in Kenya.

In order to identify the economic and behavioral aspects influencing taxpayers' tax compliance, Lokarach and Rugami (2019) undertook a study. The study's goal was to identify the behavioral and economic elements that influence tax payers' compliance with the tax penalty amnesty scheme. The complexity of the tax laws, ability to pay, ignorance of the tax laws, and perceptions of high tax rates and unfairness of the tax system were identified as reasons why respondents did not pay their taxes due, within the statutory period, or declare the correct taxable income using questionnaires given to participants in this amnesty program.

The impact of tax education on tax compliance attitudes was studied by Adeyeye in 2019. To investigate how providing tax education affects tax payers' attitudes about tax compliance, the study used both experimental and survey techniques of data collection. Experimental data was obtained twice through questionnaires. The study found that after receiving a tax course, the majority of respondents' tax knowledge increased. Before taking the tax course, a larger portion of respondents had poor general tax understanding. However, most of the respondents demonstrate an improvement in their general knowledge of taxes as a result of taking the tax course. Therefore, offering tax education, awareness campaigns, or workshops to actual taxpayers can enhance their general tax literacy. The study also found that the majority of respondents have a positive attitude toward adhering to the tax regulations after taking the tax course.

There is great difference between the tax compliance attitude of these respondents before and after attending the tax course. Before attending the tax course, majority of respondents show plan of not complying with tax laws. But after attending the tax course, the largest part of the respondents proves their willingness to comply with tax laws. As it is explained in the above paragraph, the tax knowledge of respondents is improved after attending the tax course. The tax compliance attitude of majority of respondents is also improved after provision of tax course. Therefore, it can be concluded that the tax compliance attitude of tax payers can be improved by enhancing their tax knowledge and one of the mechanisms to enhance knowledge is providing tax education to the targeted group (Adeyeye, 2019) which was also of interest to the current study which analyzed the effect of the cost element of taxpayers’ education policy on revenue collection performance by KRA.

2.4.4 Stakeholders Engagement Policy and Revenue Collection

According Slabbert (2018) state stakeholder engagement is bridging, non-buffering function, focuses on public participation in strategic decision making and organizational behavior. Stakeholder has a potential to give influence of failure and success of the organizational at a various level. For example, if the workers do not have discipline and bad attitude in their task it can cause the project will delay or failure. To get the sustainable development agenda the stakeholder engagement should be at the central of sustainable development. A major objective of stakeholder engagement is to generate a good understanding on perspective of stakeholder on the key issue and build a good relationship with the important of people.

Paranamanna and Dissanayake (2021) observe that purpose of the stakeholder engage is to drive strategic direction and operational excellence for organizations and to contribute to the kind of sustainable development from which organizations, their stakeholders and wider society can benefit by learning, innovating and performing. According Bellucci, Manetti, and Thorne (2018) also observes that stakeholder engagement not always comfortable, sometimes stakeholder engagement can give the complex issue or weakness for organization. For example, the major of complex that can be interrupting is the different of stakeholder that have the different opinion and different expectation. This makes the organization difficult to make decision. Next, if the organization involve stakeholders but don't take their advice, organizations have raised an expectation that hasn't been met, which can lead to distrust and hamper morale. Stakeholder engagement lies in engaging stakeholder in a two-way relation so that the decision making was made after into consideration conflict interest in organization and the stakeholder. To take stakeholder engagement the organization must be planning to get the good stakeholder. So, if organizations have a good stakeholder, they can get the quality of their project.

Fadun (2014) study examined CSR practices and stakeholders' expectations in Nigeria. The study was based on Carroll's CSR model that constitutes of economic, legal, ethical and discretionary social responsibilities. Quantitative survey research design and hypothesis testing were used. The study identified employees, customers, shareholders, and local communities as the main stakeholders in the context of business environment in Nigeria. A sample size of 240 respondents was identified through purposive sampling technique in the six geopolitical zones in Nigeria. Response rate was 66 percent (158) respondents. Data was processed and analyzed with SPSS/PASW by use of a 5-point likert scale ranging from strongly agree to strongly disagree. The findings indicated that CSR demonstrates sensitivity to multiple stakeholders and enhances corporate image hence competitive advantage. This study did not analyze the effect of stakeholders' engagement policy on revenue collection by Kenya Revenue Authority which was the fourth objective of the current study whose results is presented in chapter four.

Mory, Wirtz and Göttel (2016) sought to identify correlation between internal CSR practices (work life balance, training, health and safety, human rights and workplace diversity) and employees' quality of work life (trust, commitment and job satisfaction) among Malaysian service firms. 259 questionnaires were distributed by mail and hand, where seven-point likert scale was used to measure, and MLRM and Pearson's Product Moment Correlation Coefficient (PMCC) used for analysis. The study found that internal CSR practices are significantly positively correlated with employees' quality of work life. The study results were limited to the service industry and therefore future study required on other industries. Secondly, the study used cross sectional data which shows the state on a specific time frame. Future studies need to consider time series and pooled data. Thirdly, the survey questionnaire was prone to response bias as managers were more likely to portray only positive image of their organizations and their interpretation of the questionnaire would be different. Future studies need to use interview schedule to reduce ambiguity, bias and also improve the response rate. This study was purely on employees work experience in contrast to the current study based on the effect of stakeholders' engagement policy on revenue collection by Kenya Revenue Authority.

Hilson (2014) focused on CSR in Ghana's oil sector in a qualitative study. The study was based on stakeholder and legitimacy theories. Purposive sampling and snowballing methods were used to select respondents from 6 affected communities, and relevant government agencies and ministries. The study used semi structured interviews, and focus groups with a range of stakeholders. Data was analyzed using discourse analysis. The study found that companies are disconnected ideologically from local development needs because of stifled creativity and innovation in CSR, attributed to institutional weaknesses and regulatory deficiencies. This study was based on stakeholder's engagement and institutional activities in contrast to the current study based on the effect of stakeholders' engagement policy on revenue collection by Kenya Revenue Authority

Ahen (2015) also did a qualitative study on pharmaceutical firms in Ghana. Qualitative research though provided detailed analysis of the subject matter was criticized for its inability to be replicated, hence quantitative studies proposed for future studies. Ibrahim (2014) did a qualitative study on CSR practices among SMEs in Egypt. Qualitative exploratory research design was used. The study used a sample size of 54 respondents selected through purposive sampling. Primary data was collected through interviews and field notes while secondary data was collected from company documents and website information. Data analysis used both deductive and inductive approaches. The study found that the presence in a country of a conducive and institutionalized environment in favor of CSR acts as a catalyst for social and economic development. This study was on work environment and CSR in contrast to the current study based on the effect of stakeholders' engagement policy on revenue collection by Kenya Revenue Authority.

Adeyemo, Oyebamiji and Alimi (2013) study on the factors influencing CSR in Nigerian manufacturing firms found that CSR is a must strategy in global competitive business environment. The population comprised of staff from 5 selected leading manufacturing companies in Ibadan. Purposive sampling method was used to select ten (10) respondents from each firm giving sample size of 50 respondents. Research design was descriptive survey through a questionnaire. Multiple regression analysis was used for data analysis using SPSS. The results identified key factors that influence CSR as competition, employees, government policy, organizational culture, and customers. The factors identified were institutional internal factors in contrast to the current study based on the effect of stakeholders' engagement policy on revenue collection by Kenya Revenue Authority.

A case study of property owners in Nakuru Town was used by Lawal (2021) to analyze the variables influencing tax compliance in the real estate sector in Kenya. The study's specific goal was to ascertain how tax compliance in the real estate industry is impacted by costs associated with compliance, tax knowledge and education, fines and penalties, and projected opportunities for tax evasion. The Theory of Planned Behavior served as the study's direction. Explanatory research design was adopted in the study. From the target population of 841 real estate investors, 271 people were chosen as the sample. A standardized questionnaire was used to collect the data, which was then coded, keyed, and statistically analyzed using both descriptive and inferential statistics. The results of the study demonstrated that compliance costs had a detrimental impact on the degree of tax compliance. On the other hand, the degree of tax compliance among real estate investors was positively impacted by tax awareness and education. Similar to how perceived opportunities for tax evasion had a negative impact, fines and penalties had a beneficial impact on the degree of tax compliance. The current study examined the impact of tax stakeholders' engagement on revenue collection as contrasted to compliant expenses.

In another study, Mucai, Kinya, Noor and James (2014) investigated the tax planning and financial performance of small-scale enterprises in Kenya. They argued that in order to ensure the efficiency and effectiveness of activities, reliability and compliance with applicable laws, small scale enterprises need to have adequate tax controls. The study sought to find out the extent to which expenditure on capital assets in tax planning, to determine how tax planning by Capital Structure influence performance of small enterprises, find out how tax planning through Advertisement expenditure influence performance of small enterprises and to assess how tax planning through Legal Forms of enterprise influence performance of small enterprises in Embu CBD. The study had a total population of one hundred and forty-nine respondents and a sample of 30 percent was drawn from each stratum. The data was then presented in form of Percentages and Tables. The study found the influence of tax planning by capital structure, tax planning in investment, capital asset planning through advertisement expenditure and found that the Legal Forms of small enterprises in Embu CBD has no significant relationship.

Another CRS study Kayode and Folajinmi (2020) looked at the relationship between top marginal income tax rates in the U.S., which have been declining since 1965 save for a few upward fluctuations, and labor force participation rates. During the same time period, labor force participation for men declined while labor force participation for women rose. Additionally, average work hours have steadily declined in both the U.S. and worldwide, though this trend may also be a result of changes in the composition of the workforce. The study concluded that any relationship between top marginal tax rates and labor supply, savings, and investment is not a strong association. Additionally, the study looked at historical trends in top marginal tax rates and GDP growth and found that periods of high-top marginal tax rates in the U.S. were actually correlated with higher economic growth, though the relationship was not causal.

On the other hand, Anichebe and ACA (2019) found that an increase in the top marginal income tax rates in the U.S. would result in lower output, employment, wages, and investment. They employed an Ernst & Young general equilibrium model based on the 2011 economy and how it would hypothetically respond to the proposed changes in legislation in 2012 and 2013. The authors concluded that the specific effects of an increase in the top income tax rates would reduce the labor supply and disposable incomes. The effects of an increase in taxes on capital gains and dividends would similarly have an adverse effect on investment and the capital stock

Tahiri (2019) evaluated the effects of top company tax rates and personal income tax rates on economic growth using panel data from 15 OECD nations. The authors discovered a statistically significant (although economically minor) negative impact of top personal income tax rates on economic growth after controlling for fiscal policy metrics like public expenditures, budget surpluses, and other variables. They also found negative effects of corporate tax rates on GDP growth, but concluded that unless taxes were reduced in both cases, they were not likely to individually have a strong effect on growth rates. A big contribution of this model was that it accounted for the openness of economies by controlling for international variables, though these have more of an effect on corporate tax rates.

Ouma (2019) reviewed tax revenue performance as well as tax design and Implementation changes during the period 1996 - 2005 in order to identify priorities for further tax reform. The study established challenges that confront tax design include taxation of agriculture and the informal sector, repeal of tax holidays, high effective protection, high dispersion of tariff rates, detailed and rigid custom rules, poor response of VAT to reforms, and refunds for zero-rated transactions. In addition, Kenya’s tax system is burdensome in terms of time taken to prepare and submit tax returns. The study concludes that there should be more than reforms as the one done are not enough and also involve taxpayers in the formulation of tax policy and planning for any reforms.

Yasseen, Stegmann and Crous (2020) examined corporate taxation and SMEs in Italy between the year 1997 and 2004. The author established that growth of SMEs and entrepreneurship is more sensitive to changes in corporate tax rate than larger and older firms which are attributed to difficulties in accessing debt financing. Further it was established that user cost of capital affects negatively the investment undertaken by the old and medium firms which implies that young firms are less profitable than older ones and therefore less affected by the corporate tax adjusted user cost of capital. This study enhances the study of Yasseen, Stegmann and Crous (2020) who had concluded that the objectives of the reforms have not been achieved.

A study on the revenue productivity of tax reforms in Kenya was carried out. The results showed an income elasticity of total tax structure of 0.67 and buoyancy of 1.19 for the period 1972 to 1981 implying a buoyant tax system and decrease in tax revenue as a fraction of GDP. The results further showed an income elasticity of total tax structure of 0.86 and buoyancy of 1 for the period 1982 to 1991. The study’s conclusion was that the system did not meet its target in terms of revenue (Aribaba, Oladele, Ahmodu, & Yusuff, 2019).

To ascertain whether the reforms produced individual taxes responsive to changes in national income, second research was conducted. There was evidence that the reform had a positive impact on both individual tax returns and the general tax system. Despite the beneficial effects, the study found that the reforms had not succeeded in making the VAT responsive to changes in income. A regression analysis of tax revenue on income came to the conclusion that the slowdown in economic growth had led to high tax rates that did not correspond to the provision of public goods and services (Wawire, 2017).

Between 1986 and 2009, the responsiveness of tax revenue to changes in the national income in Kenya was examined. According to the findings, the whole tax system had a buoyancy of 0.525, which meant that for every 1% change in GDP, both automatic adjustments and discretionary policy changed tax revenue by 0.525%. As a result, a smaller percentage of additional revenue was given to the government in the form of taxes, suggesting that the tax system was less robust (Arif, Khan & Hussain, 2017).

Research was conducted to determine the impact of tax reforms on the buoyancy of income tax and value added tax, as well as determining the impact of the reforms on the elasticity of the tax system, in light of Kenya's alignment of its development goal towards Vision 2030. The Kenya Vision 2030 and the Tax Modernization Programme of 1986 served as the study's guiding principles. The study revealed that while the reforms had a favorable effect on income tax productivity, they had no significant effects on value added tax productivity. The positive impact of reforms on the productivity of income tax was as a result of the relative effectiveness of income tax reform that made the tax system simpler and reduced avenues for evasion and corruption, whereas the low elasticity of value added tax might have been caused by tax evasion and collusion between the tax collectors and tax payers. In spite of the good performance of income tax as a result of reforms, further reform needs to be done particularly on the inelastic value added tax. These reforms include: reduction of rates and exemptions, increasing the number of tax collectors, imposing tougher penalties for those found guilty of evasion, strengthening audit skills, taxation of absentee landlords and income from rental houses (Nyandieka, 2020)

World Bank carried out a study on the efficiency of paying tax in Kenya and found that taxpayers face significant compliance costs and this interferes with their willingness to pay. Thus, it is evident that low compliance is mainly an administrative issue related to Kenya Revenue Authority, and their costly administrative structure itself contributes to the problem. For instance, a taxpayer in Kenya can be audited three times (for value added tax, income tax, excise tax) but yet still be dealing with Kenya Revenue Authority only. Furthermore, if liable to a levy, the taxpayer may also be audited by government ministries. The tax-by-tax organization of Kenya Revenue Authority needs to be revisited. Best international practices suggest that revenue Implementation be organized according to function, so that audits are conducted as a single operation, and not by the type of tax. For example, one auditing section should undertake tax audit in a firm for income tax, value added tax, excise tax and any other taxes collected by the government (World Bank, 2012).

2.4.5 Macroeconomics Factors and Revenue Collection

Experts on taxation in developing countries strongly agree that there is considerable potential to increase tax revenue in most low-income countries. In its 2011 policy paper on the subject, the IMF stated that an increase was not only possible but also desirable. The findings of the World Bank study presented in the previous section confirm that most low-income countries have both low tax collection and low tax effort, the latter indicating that tax revenues are below their potential level (Behera & Dash, 2018). In addition to having revenue below potential, many LICs still face tax shares (of GDP) below 15% which is considered a reasonable threshold for ensuring government functioning (Behera & Dash, 2018).

The difficulty that governments in underdeveloped nations have in raising tax income leads to a discrepancy between what they could raise and what they actually do. Resnick (2021) lists using new technologies and more effective tax payment methods as one of these difficulties in order to eliminate waste. One of the technologies he cites is the electronic tax system, which the Kenya Revenue Authority has so far adopted. Abdinur, Farah, Kassim and Hashi (2021) noted that improvement in Implementation would lead to increased revenue performance. He further argued that, if a tax is well administered, then inevitably revenue collections have to increase. It is the only way one can be able to know whether a tax is well administered or not.

According to initiative for policy dialogue working paper series (2009), Kenya has the trappings of a modern tax system, including, for example, a credit-invoice VAT, a PAYE individual income tax with graduated but arguably moderate rates, and a set of excise taxes focused on the usual suspects (alcohol, cigarettes, gasoline, etc.). However, with up to 70 percent of GDP produced and possibly as much as 75 percent of labor employed in the informal sector, the ability of the tax system to raise sufficient revenue with minimal distortions is severely circumscribed. In such an environment, raising around one-fifth of GDP in tax revenue is likely to impose very large distortionary costs on the economy. Continued reform of both the policy instruments and the administrative and enforcement capacity of the tax system is therefore imperative.

According to Ebrahim, Gcabo, Khumalo and Pirttilä (2019) tax collection is important to any country even though it is not favored or understood by the country's citizens. They went on to argue that, though the taxpayers acknowledge the need to pay taxes and enjoy the benefits offered by the government in form of public service, tax compliance is not favored by the majority. It is critical that the importance of tax compliance is understood because it determines how the government shapes the lives of its citizens (Oberholzer, 2017). Bird (2018) revealed that in most developing countries, more than half of the potential tax revenues tend to remain uncollected. This he further accredited to the large volume of the informal sector, dominated by the small business owners.

Applying cost benefit analysis models, Payne and Saunoris (2020) explained the interplay between tax underpayment and the tax authority's effort to identify and limit tax frauds. This occurs in circumstances where agents gamble by underpaying taxes, and where the probability of detection and the resultant penalties are determined by the resources committed by the regulator, and the efficacy of institutions. These models identify several factors explaining tax underpayment, including the tax burden, the stringiness and efficacy of enforcement, the penalties associated with tax underpayment, and the degree of risk aversion. Robinson and De Beer (2021) argued that, revenue may increase provided trade liberalization occurs through tariffication of quotas, eliminations of exemptions, reduction in tariff peaks and improvement in customs procedure.

According to research done by Ali and Audi (2018) in sub-Saharan countries on tax efforts, many sub-Saharan countries in Africa struggle to raise tax money for public purposes. Measurement of the tax portion of GDP and the construction of a tax effort measure were the goals of the study. Ali and Audi's (2018) study on tax initiatives in Arab nations indicated that the effectiveness of tax collection measures differs between Arab nations. The study found that the changes in tax revenues were not consistent among these Arab nations. In recent years, tax revenue shares have strengthened in certain countries while they have weakened in other ones.

In Kenya, KRA has sought to boost tax compliance by introducing sanctions such as electronic monitoring, audits, compliance checks, investigations and shutting of non-compliant taxpayers' businesses, heavy penalties and prosecution of tax evaders. There is also a whistleblower rewards to those who volunteer information that leads to recover of taxes. These sanctions and the reward have helped in improvising the general level of tax compliance (KRA, 2013). Kenya is regarded as a low-income country and therefore tax compliance of Kenya has significantly been low with tough duty of warranting resourceful and effective tax Implementation. Kenya Revenue Authority performs education monthly to all newly registered taxpayers so as to improve tax compliance. Whether the increased taxpayer education has led to improved tax compliance has not been captured in any observed study (KRA, 2011).

Owino (2018) did a study using time series data on economic growth and taxes in Kenya from 1971 to 2010. The study reveals a relationship which is positive between the growth of economy and taxes. All taxes show a correlation which is positive to GDP. He also tests for the direction of causation of the variables using Granger Causality test and finds reversal causality on excise tax and economic growth. Owino (2018) points out that different uses of tax revenue affect growth differently. The model however fails to capture variables which cause inefficiency in tax Implementation and collection. Shivanda, and Obwogi (2019) did a study using data from 1986-2009 and analyzed the tax revenue changes in Kenyan income and its responsiveness. The government was experiencing a continued deficit in the budget due to tax system inability to raise enough revenue to finance the government and also lack of responding to changes in Kenyan income. However, they fail to capture fully the variables which cause inefficiency in tax Implementation and collection. Although these studies captured the role played by macroeconomic factors in taxation, they were general and did not specifically analyze the moderating effect of macroeconomic factors on the relationship between the taxation policy costs and revenue collection in Kenya.

2.5 Research Gaps

The empirical literature examined in this section serves as the foundation for a synthesis of the broad review of the Kenya Revenue Authority's (KRA's) changes in taxation policy costs, the moderating impact of the macroeconomic environment on KRA's revenue collection efforts, and more specifically, the costs associated with KRA's implementation of its tax enforcement, taxpayer education, and tax automation policies, as well as its tax stakeholder engagement policy. The study further reviewed the moderating effect of macroeconomic environment including; real interest rate, real exchange rate and inflation rate on the relationship between what it cost KRA to implement the various tax policies and what they achieve in revenue collection. The study isolated the following as the research gaps that the reviewed studies did not analyze and are filled by the current study;

The studies on tax enforcement policy did not examine the effect of the cost in implementing tax enforcement policy on revenue collection by KRA using panel data source for widening understanding whether there is change in relationship between these costs and revenue collection by the agency which is the literature gap the current study's results availed as knew knowledge as far. The reviewed studies on tax automation policy did not examine the effect of the cost in implementing tax automation policy on revenue collection by KRA using panel data source for widening and deepening understanding whether there is change in relationship between the cost of implementation of tax automation policy and revenue collection by the agency which is the literature gap the current study's results availed as knew knowledge.

Further reviewed studies on taxpayer's education policy did not examine the effect of the cost in implementing taxpayers' education policy on revenue collection by KRA using panel data source to establish whether there is change in relationship between the cost of implementing taxpayers' education policy and revenue collection by the agency which is the literature gap the current study's results availed as knew knowledge. Also, further reviewed studies on tax stakeholder's engagement did not examine the effect of the tax stakeholder's engagement policy on revenue collection by KRA using panel data source for a better understanding whether there is change in relationship between the tax stakeholder's engagement by the agency on revenue collection which is the literature gap the current study's results availed as knew knowledge.

The studies reviewed on the moderation of macroeconomic environment did not analyze the moderating effect of macroeconomic environment (real interest rate, real exchange rate and inflation rates) on the relationship between what it cost KRA to implement the four taxation policies and revenue collection performance by KRA using panel data over 26 years to find out whether there is change in relationship of the moderating macroeconomic factors (real interest rate, real exchange rate and inflation rates) on the costs of implementing the taxation policies and revenue collection by KRA based on the panel data which is the literature gap the current study's results will avail as knew knowledge out of the relationship.

2.6 Summary of Literature Reviewed

The above literature has clearly established tax compliancy has direct effect on the domestic revenue collection of a country, implying that an increase in the number of tax compliant persons in a country leads to increased revenue collection. This can help the country to realize its goals and objectives as set out in the budget as the growing concern of tax Implementations. Taxation theories indicate that collecting more revenue requires revenue authorities to fix lower marginal tax rates, high penalty rate and intensify tax inspections or audits. From theory and practices, raising tax compliance requires more inspections. Moreover, through inspection or audits, tax payers will be able to get clarification on tax laws, practices and clear mistakes and confusions in tax calculations and quickly note any defaults in tax collections and non-compliance. Conducting optimal tax audits and inspections also requires having optimal amount of staff.

Other than the challenges that face tax collection, studies have shown that the tax collector and the taxpayer should work arm-in-arm to overcome some of the challenges. For instance, Brondolo (2009) conducted a study on the challenges facing tax collection and strategies and measures for responding to the challenges among EU countries during the global financial and economic crisis of 2008. The study posited that an economic downturn tends to worsen taxpayer compliance in important aspects. Consequently, tax agencies were encouraged to develop tax compliance strategies that are structured around two objectives: containing the growth in noncompliance and helping taxpayers to cope with the crisis. To achieve these objectives, four sets of measures were identified: expanding assistance to taxpayers; refocusing enforcement on the highest revenue risks; introducing legislative reforms that facilitate Implementation; and improving communication and outreach programs.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discussed the methodological approach for the study and it comprised of research design, target population sampling design, research instruments, and data collection procedure and data analysis methods.

3.2 Research Philosophy

The study applied a positivism research philosophy. Research philosophy is the development of the research background, research knowledge and its nature (Saunders, Lewis & Thornhill, 2007). Research philosophy is also defined as a research paradigm. According to Cohen Manion and Morrison (2000), research paradigm can be defined as the broad framework, which comprises perception, beliefs and understanding of several theories and practices that are used to conduct research. It can also be characterized as a precise procedure, which involves various steps through which a researcher creates a relationship between the research objectives and questions.

According to the definition given by Gliner and Morgan (2000) paradigm is a way of thinking about and conducting research. It is not strictly a methodology, but more of a philosophy that guides how the research is to be conducted. Research paradigm and philosophy comprises various factors such as individual’s mental model, his way of seeing things, different perceptions, and variety of beliefs towards reality. This concept influenced the beliefs and value of the researchers, so that he/she can provide valid arguments and terminology to give reliable results.

Positivism research philosophy was applied since it is directly associated with the idea of objectivism. In this type of philosophical approach, researchers give their viewpoint to evaluate social world with the help of objectivity in place of subjectivity (Cooper & Schindler 2006). According to this philosophy, researchers are interested to collect general information and data from a large social sample instead of focusing details of research. According to this approach, researcher's own beliefs have no value to influence the research study. The positivism philosophical approach is mainly related with the observations and experiments to collect numeric data (Saunders, Lewis & Thornhill, 2007). Positivisms claim there is a single, objective reality that can be observed and measured without bias using standardized instruments.

3.3 Research Design

Research design is important as it prepares proper framework within which the research work/activity was actually carried out. Objective measurements and the statistical, mathematical, or numerical interpretation of data obtained are emphasized by a quantitative study design (Neuman, 2013). The main objective of a quantitative research design is to collect and generalize numerical data through groups of people or to clarify a particular phenomenon. The option of design is on the need to identify the current situation of investigating the effects of government taxation policies on revenue collection in Kenya Revenue Authority in order to investigate the current situation. In order to test the study hypothesis, this research design was based on the causal relationship between variables, making the design the most suitable.

Since this research sought to explain a causal relationship between taxation policy Implementation cost and revenue collection in Kenya Revenue Authority, the study adopted casual quantitative research design. Gay and Airasian (2003) note that causal research designs are used to determine the causal relationship between one variable and others. According to Green and Tull (2009), a research design is the specification of methods and procedures for acquiring the information needed. It is the over-all operational pattern or framework of the project that stipulates what information is to be collected from which source by what procedures.

3.4 Target Population

Population is the entire set of units for which the study data are to be used to make inferences (Kothari 2003). Target population defines those units for which the findings of the study are meant to be generalized from. The study targeted Kenya

Revenue Authority where the researcher collected time series data on the cost of tax enforcement, the cost of tax automation, the cost of tax payers’ education, the cost of stakeholder’s engagement and revenue collection in Kenya. The study also targeted the National Treasury where data related macroeconomics factors including changes in interest rate, exchange rate and inflation rate which are external factors that affect revenue collection by Kenya Revenue Authority.

3.5 Sample and Sampling Technique

The purpose of sampling is to secure a representative group (Mugenda, 2008). Burns and Grove (2003), refer to sampling as a process of selecting a group of people, events or behavior with which to conduct a study. The sample data for this study was collected between 1995 and 2020. The choice of this period was justified on grounds that it coincided with the period when Kenya Revenue Authority was implementing various tax to improve its revenue collection and meets targets. Tax automation was also undertaken during this period hence it was a critical period for the revenue collection body in Kenya.

3.6 Data Collection Instruments

Kothari and Garg (2014) define research instruments as “tools for collecting data.” Orodho (2004) observed that in a study, there are a number of research tools that can be used depending on the nature of the study, the kind of data to be collected and the kind of population targeted. The study used data collection sheet to collect secondary data obtained from KRA records and information from the government National Treasury. The study used secondary data comprising of different costs Kenya Revenue Authority incur to achieve tax enforcement, tax automation, tax payer’s education and stakeholders’ engagement policies, and also the dependent variable which is revenue collected over the years of study, whereas the National Treasury gave information concerning interest rate, exchange rate and GDP performance between 1995/1996 to 2019/2020 financial years, a period of 26 years. In order to collect the required data, the researcher used pre-designed data collection sheet covering the 26 years’ period and also with all the variables required.

3.7 Data Collection Procedure

The study relied on secondary data hence relied the necessary authorization and permits to undertake data collection. Therefore, a permit was obtained from National Commission for Science, Technology and Innovation (NACOSTI) and the letter of authorization from both the university and the management of Kenya Revenue Authority. Secondary data used was collected from corporate data office of KRA. Data was also obtained from; Annual Corporate plans reports, KRA Budget report, KNBS Websites and reports and from CBK report on macro-economic environment. The officers in this corporation were approached by booking appointments where necessary in order to get accessed to the data that was not available online.

3.8 Data Analysis

After the collection of all the required data sets in the data collection sheet, the researcher then cleaned the data making sure that the data is ready for analysis. The researcher used STATA computer package to analyze the data. In order to answer the research hypotheses both descriptive and inferential statistics carried out. Inferential statistics was done using both correlation and regression analysis which was used to establish the relationship between the variables under the study (Kothari, 2011). The level of significance was tested at 5 per cent whereby if the p value is less than 0.05 then there is enough evidence to reject the null hypothesis and accept the alternative hypothesis (Kothari, 2011). A multivariate regression model was further used to link the independent variables to the dependent variable. Regression model was used to test the significance relationship taxation policy Implementation costs on revenue collection in Kenya. The study used time series data to carry out the research analysis for 26 years, 1995-2020. Diagnostic test for heteroskedasticity, serial correlation, fixed effects and autocorrelation were carried out on the data before fitting the regression model.

3.8.1 Model Specification

The study used panel data to examine the changes in tax collection by Kenya Revenue Authority, the moderating effect of macroeconomic environment and public debt performance in Kenya for 26 years starting from 1995 to 2020. Further, Cheng Hsiao (2004) concluded that longitudinal data allows a researcher to analyze a number of important economic issues that can be addressed using cross sectional or time series data sets with ease. The following model was used to test the effect taxation policy Implementation cost and revenue collection in Kenya.

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \varepsilon_t$$

Where;

Y_t = Revenue Collection

β_0= Regression Coefficients constant

$\beta_{1....4}$ is the coefficients of the regressor variables

X_1 = Taxation Enforcement Policy Cost

X_2= Taxation Automation Policy Cost

X_3 = Tax Payers Education Cost

X_4= Stakeholders Engagement Cost

ε_t = the error term

Model for the moderating effect of macroeconomic factors on the relationship between tax policy and revenue collection by KRA

$$Y_t = \beta_0 + \beta_1 X_t + \beta_2 Z_{2t} + \beta_3 X^*Z + \varepsilon_t \text{...} (3.4)$$

Where;

Y_{it} = Revenue Collection

$\beta 0$= Regression Coefficients constant

$\beta_{1\ldots4}$ is the coefficients of the regressor variables

X= Composite for Taxation Policy Implementation costs

$Z_{(1,2,3)}$ is the moderator variables where Z_1= Interest Rate, Z_2 = Exchange Rate and Z_3 = inflation rates

X*Z – Interaction variable between composite for independent variable and moderating variables

ε_t = the error term

3.8.2 Diagnostic Tests

In order to declare the data normal to examine the changes in cost of implementing tax policy and its effect on revenue collection by Kenya Revenue Authority and the moderating effect of macroeconomic environment, several diagnostic tests were carried out; heteroskedasticity, serial correlation, fixed effects, random effects, autocorrelation, multicollinearity, stationarity test among others were carried out. A summary of the test that were carried out and the criteria for making the decision is presented in Table 3.3.

Table 3.1: Diagnostic Tests

	Test Used	
Time Fi*xed Effects	Testsparm test	If p value >0.05, there are no time fixed effects do not use two-way model or introduce dummy variables so we fail to reject the null that the coefficients for all years are jointly equal to zero, therefore no time fixed-effects are needed in this case.
Heteroskedasticity	Wald Chi-square test	If P value <0.05, presence of Heteroskedasticity
Serial correlation	Wooldridge Drukker test	If P>0.05, no serial correlation, and the study will fail to reject the null and conclude the data does not have first-order autocorrelation.
Multicollinearity	VIF	If VIF<10, there is no multicollinearity between independent and dependent variables.
Unit roots/stationarity	Levin-Lin-Chu Unit test for icfs/ Harris-Tzavalis test for icfs	If p-value<0.05 use stationary alternative; null hypothesis of a unit root is rejected in favor of the stationary alternative in each case if the test statistic is more negative than the critical value.
Normality	Jacque Beta test	If P>0.05 then this implies normality.

3.8.2.1 Heteroscedasticity

Heteroscedasticity was tested using Breusch-Pagan-Godfrey; if heteroscedasticity is present in the model, the estimators of the OLS parameters are unbiased and consistent, but the standard errors are not efficient. If the standard errors are not adjusted for heteroscedasticity, the usual t statistics or F statistics for testing our hypothesis cannot be used. When heteroscedasticity is present, robust standard errors tend to be trust worthier. However, the use of robust standard errors does not change coefficient estimates, but the test statistics gives reasonably accurate p-values. To demonstrate if the models estimated suffer from heteroscedasticity, the variance of the error process appears to be independent of the explanatory variables. If the null hypothesis is rejected, the statistical evidence implies that heteroscedasticity is present (Wooldridge 2013; Baltagi, 2005).

3.8.2.2 Auto Correlation

Auto Correlation The relationship of error terms in different time periods is known as the autocorrelation (Woodridge, 2013). Consequently, standard errors affected the efficiency of estimators since they were distorted (Woodridge, 2013). Autocorrelation was tested using Wooldridge F-test and the null hypotheses there was no serial correlation against the alternative of the presence of serial correlation. The null hypotheses were rejected if the p value will be less than 0.05.

3.8.2.3 Multicollinearity

Multicollinearity is when there are chances of independent variables being correlated if so then multicollinearity will be present (Baltagi, 2005). Due to this there are chances of deflating or inflating regression coefficients and this will ultimately invalidate the test statistics (Woodridge, 2005). The study used Variance inflation factors (VIF) to test for multicollinearity. A threshold of VIF ≤ 10 was used to interpret that there is no problem of multicollinearity (Baltagi, 2005). Moreover, correlation analysis was applied and if there are some variables with correlation coefficient greater than 0.8 then there was collinearity.

3.8.2.4 Data Stationarity

Since the data also having time series characteristics, there is need to determine whether the variables in question are stationary or non-stationary. Stationary series have finite variance, transitory innovations from the mean and a tendency to return to its mean value as opposed to non-stationary series (Baltagi, 2005). Therefore, there is need to ensure that the variables to be estimated have constant mean and variance over time or the data is stationary. Any regression analysis carried out on non-stationary data leads to spurious and inconsistent regression modelling. Fitting of spurious regression may lead to rejecting of null hypotheses which ought not to have been rejected. In the current study Levin-Lin-Chu, Augmented Dickey Fuller and Phillips Perrons root tests was applied for stationarity analysis. These two tests also accounted for autocorrelation in the error process (Wooldrige, 2013; Baltagi, 2005). The left-hand side variables are lagged (ΔXt) as additional explanatory variables so as to approximate the autocorrelation (augmentation). This improves the statistical fit of the equation and r is more efficient with added information. The basic equation used in the PP test remains the same as the one used in the ADF test. The number of lags (K) for ΔXt-1 should be relatively small to save the degrees of freedom, but large enough to allow the existence of autocorrelation in the error term.

Table 3.2: Variables Operationalization and Scale of measurement

Variables	Operationalization	Scale of the measurement
Revenue Collection	• Total Amount spent on enforcement of Taxation policies	Ratio Scale
Tax Enforcement Policy Cost	• Total Amount spent on enforcement of Taxation policies	Ratio Scale
Tax Automation Policy Cost	• Total Amount spent on Automation	Ratio Scale
Tax payers Education Policy costs	• Total amount spent on Tax payer education	Ratio Scale
Stakeholders Engagement Policy costs	• Total amount spent on stakeholder engagement	Ratio Scale
Macroeconomic Factors	• Inflation rates • Exchange Rate • Interest Rates	Ratio Scale

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter comprises of data analysis, results and discussions. The study conducted descriptive analysis on the study variables, trend analysis and inferential statistics which include correlation analysis and regression analysis. The chapter further presents the diagnostics test that were conducted to test the assumptions of regression before regression model were estimated.

4.2 Descriptive Statistics

Descriptive statistics was used to visualize the data by describing the key data elements including; the number of observations, the mean, the standard deviation, minimum value in the data array and the maximum value in the data array. The data arrays analyzed in this section included; the costs KRA incurred in achieving the tax enforcement, tax automation, taxpayer's education and stakeholders' engagement policies. The other data arrays were the macroeconomic moderating variables including; inflation rate, exchange rate and exchange rate Descriptive Statistics results are presented in Table 4.1

Table 4.1: Descriptive Statistics

Descriptive Statistics	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Tax Enforcement Costs	26	12075600	94935209	45800833	23276235	0.642	-0.32
Tax Automation Costs	26	47741475	5.61E+08	2.13E+08	1.62E+08	0.218	0.225
Tax Education Costs	26	9034452	72694000	43774218	18208562	-0.034	-0.644
Stakeholders Engagement Cost	26	97635	2007688	713740.5	691178.6	0.847	-0.894
Exchange Rate	26	51.4298	106.451	80.28934	15.29555	0.080	-0.701
Inflation Rate	26	0.9	42	9.683077	8.263753	0.796	0.487
Interest rates	26	11.9958	33.7867	18.0662	6.186966	0.331	0.792
Tax revenue collected	26	471400000	1727000000	1048344000	447383000	0.505	0.233
Valid N (listwise)	26						

4.2.1 Tax Policies Enforcement Costs

The summary of the descriptive statistics as illustrated in table 4.1, revealed that the cost incurred by KRA in implementing Tax Enforcement Policy cost had a mean of Kshs. 45,800,833implying that the average Tax Enforcement cost by KRA for the entire period of study (1995-2020) was a colossal amount of money whose objective was to net as much tax as possible. From the summary statistics, Tax Enforcement had a standard deviation of Kshs. 23,276,235 implying that the high variation from the mean. The minimum value for Tax Enforcement was Kshs. 12,075,600 and the maximum value was Kshs. 94,935,209.

A general guideline for skewness is that if the number is greater than +1 or lower than –1, this is an indication of a substantially skewed distribution. For kurtosis, the general guideline is that if the number is greater than +1, the distribution is too peaked. Likewise, a kurtosis of less than –1 indicates a distribution that is too flat. According to the results, the value for skewness and kurtosis for Tax Policies Enforcement Costs was between +1 and -1 which implied that the distribution of the data was neither to skewed nor too peaked or too flat. This confirmed that the data distribution adhered to normal distribution. According to Bolwijn *et al.* (2018) multinational firms can avoid taxes by shifting profits from high-tax countries to low-tax countries which causes substantial losses of tax revenue hence the need for continuous tax policies enforcement.

4.2.2 Tax Automation Implementation cost

The second variable analyzed in the descriptive statistics was Tax Automation cost which is the cost incurred in automation of operation of all KRA function targeting the increase in revenue collection. The results on tax automation therefore revealed that the cost incurred by KRA in implementing tax automation of its functions (Tax Auto) had a mean of Kshs. 213,000,000 implying that the average Tax Auto cost by KRA for the entire period of study (1995-2020) cost the agency large amount of amount whose objective was to increase tax revenue collection verifiability. From the summary statistics, Tax Automation cost had a standard deviation of Kshs. 161,949,577 implying that the data values were less variable and consistent and therefore good for the study. The minimum value for Tax Automation cost was Kshs. 47,741,475 and the maximum value was Kshs. 561,278,000 also implying that Tax Auto cost by KRA had been increasing steadily over the entire period of study (1995-2020). The results demonstrated that the value for skewness and kurtosis for Tax Automation Costs was between +1 and -1 which implied that the distribution of the data was neither to skewed nor too peaked or too flat. This confirmed that the data distribution adhered to normal distribution.

Similarly, Fjeldstad and Heggstad, (2012) also reported that automation of revenue collection systems enhances the ability to work well and produce good/desired results by using automation in the most effective way, the ability to save time on payment and simplification of the payment process thus enhancing one's ease or comfort and leads to transparency. Ouma (2019) found that under the un automated system the revenue collection level was low compared to automated revenue collection. The need to automate revenue collection systems by KRA explain why the automation costs of KRA increased over the study period.

4.2.3 Taxpayers' Education Policy Implementation cost

The third variable analyzed in the descriptive statistics was Tax Education cost which is the cost incurred in educating tax payers the importance of paying taxes and also the process of paying taxes. Tax education policy was meant to create awareness among tax payers aimed at increasing revenue collection through tax payer's self-assessment, a knowledge meant to be obtained from tax payers education programmes. The results on tax payers' education established that the cost incurred by KRA in implementing tax payers' education policy had a mean of Kshs. 43, 774, 218 standard deviations of Kshs. 18, 208, 562 the expenses for implementation highly varied being the study period. The minimum value for Tax Education cost was Kshs. 9, 034, 452 and the maximum value was Kshs. 72,694,000 indicating that Tax Education cost by KRA had also been increasing steadily over the entire period of study. The results indicate that the value for skewness and kurtosis for taxpayers' education policy implementation cost was between +1 and -1 which implied that the distribution of the data was neither to skewed nor too peaked or too flat. This confirmed that the data distribution adhered to normal distribution.

This fluctuation in amount spends on tax payers' education also reflect the fluctuation on tax revenue collected. The finding could further imply that Tax Education Costs were proportion to tax revenue collected by KRA. The finding agreed with Adeyeye (2019) who reported that tax knowledge of majority of the respondents is improved after the provision of tax course. Greater parts of respondents before attending the tax course had weak general tax knowledge. But, because of attending the tax course, majority of the respondents show improvement in their general knowledge about tax.

4.2.4 Stakeholder's Engagement Policy Implementation cost

The fourth variable analyzed in the descriptive statistics was stakeholder's engagement cost which is the cost incurred in engaging KRA stakeholders. Stakeholders' engagement is important in making the KRA stakeholders be part and parcel of revenue collection goal in Kenya. Stakeholders' engagement policy was meant to profile KRA stockholders in terms of the primary and secondary stakeholder which is key in increasing stakeholder's involvement in the activities of KRA so that the agency can achieve revenue collection targets.

The results on the costs incurred by KRA in implementing stakeholder engagement policy had a mean of Kshs. 713,740.5, standard deviation of Kshs. 691,178.6 which indicated high variation of costs spend in implementation of stakeholder engagement policy. The minimum value for stakeholder's engagement policy implementation cost was Kshs. 97,635 and the maximum value was Kshs. 2,007,688 indicating that stakeholder's engagement cost by KRA had been increasing steadily over the entire period of study. The results further show value for skewness and kurtosis for stakeholder's engagement policy implementation costs was between +1 and -1 which implied that the distribution of the data was neither to skewed nor too peaked or too flat. This confirmed that the data distribution adhered to normal distribution. This supports the argument of Mohammed and Sagwa, (2020) who argued that stakeholder engagement normally happens when an organization demand inputs from groups affected by its decision to weigh in their views on projects design and execution approaches.

4.2.5 Tax Revenue Collected

The fifth variable analyzed in the descriptive statistics under revenue collection was Budgeted Tax Collection which is the set targets for the agency in terms of the projected revenue to be collected annually over the period of the study. The revenue collection targets were important for tax collection planning by the Treasury. The results on the of the tax revenue collected had a mean of Kshs. 1,048,344,000 implying that the average tax revenue collected for the entire period of study by KRA was an average of Kshs. 1,048,344,000. From the summary statistics, tax revenue collected had a standard deviation of Kshs. 447383000 which indicated that revenue collected by KRA varied highly across the study period. The minimum value for tax revenue collected was Kshs. 471,400,000 and the maximum value was Kshs. 1,727,000,000 indicating that Budgeted Tax by KRA had been increasing steadily over the entire period of study. The results further show value for skewness and kurtosis for tax revenue collected was between +1 and -1 which implied that the distribution of the data was neither to skewed nor too peaked or too flat. This confirmed that the data distribution adhered to normal distribution.

4.2.6 Macroeconomic Factors

Macroeconomic factors were also key moderating variables in the study including interest rate inflation rate and exchanges rates. The first macroeconomic variable analyzed in the descriptive statistics was interest rate which is the cost of credit by the banks in Kenya. Interest rate was important for the study because the changes would have a bearing on revenue collection and therefore the researcher intended to establish the moderating effect of interest rate on the relationship between government taxation policies and revenue collection by Kenya Revenue Authority. The results on interest rate therefore revealed that the annual interest in Kenya during the period of the study had a mean of 7.1% implying that the average interest rate for the entire period of study had a bearing on KRA revenue collection verifiability. From the summary statistics, interest rate had a standard deviation of 3.3% implying that the data values were less variable and consistent and therefore good for the study. The minimum value for interest rate was 6.9% and the maximum value was 12.0% also implying that the prevailing interest rate in Kenya had also been increasing steadily over the entire period of study.

The second macroeconomic variable analyzed in the descriptive statistics was inflation rate which is the annual percentage increase or decrease in prices in Kenya. Inflation rate was important for the study because the changes would have a bearing on revenue collection and therefore the researcher intended to establish the moderating effect of inflation rate on the relationship between government taxation policies and revenue collection by Kenya Revenue Authority. The results on inflation rate therefore revealed that the annual inflation in Kenya during the period of the study had a mean of 8.6% implying that the average inflation rate for the entire period of study had a bearing on KRA revenue collection verifiability. From the summary statistics, inflation rate had a standard deviation of 5.2% implying that the data values were less variable and consistent and therefore good for the study. The minimum value for inflation rate was 4.0% and the maximum value was 26.2% also implying that the prevailing inflation rate in Kenya had also been increasing steadily over the entire period of study.

The results further show value for skewness and kurtosis for macroeconomic factors collected was between +1 and -1 which implied that the distribution of the data was neither to skewed nor too peaked or too flat. This confirmed that the data distribution adhered to normal distribution. According to Muibi and Sinbo, (2013) more favorable macroeconomic conditions are expected to impact on the determinant of the tax revenue collection such as policy implementation, level of tax policy compliance among others. Higher incomes allow for higher levels of savings which in turn are likely to improve tax revenue paid to governments.

4.3 Trend Analysis

This section presents trends analysis of the variables which was used to show fluctuations in the taxation policy Implementation cost over the study period.

4.3.1 Tax Enforcement Costs.

The results presented in the Figure 4.1 show that between 1995 and 2004, KRA increased their tax enforcement costs steadily. However, subsequent years saw the trends of tax enforcement cost fluctuates with 2010 being the year that KRA spend the last amount of money of tax enforcement policy. The findings implied that KRA does not have a fixed budget of tax policy enforcement hence the variation in tax enforcement cost could be the reason why the tax collected also varied during the study period. According to Bolwijn *et al.* (2018) multinational firms can avoid taxes by shifting profits from high-tax countries to low-tax countries which causes substantial losses of tax revenue hence the need for continuous tax policies enforcement.

Figure 4.1: Trends in Tax Enforcement Cost

4.3.2 Tax Automation Costs

The results in Figure 4.2 show that automation cost increased steadily over the study period. The study period coincided with the period when the KRA launched various systems such as i-tax to enhance revenue collection. The application of modern technological machines is argued to enhance efficiency, convenience, and give a higher degree / level of transparency in revenue collections according to Amin, (2013) who found that found that automation of revenue collection improved accountability and ease in the supervision of revenue collection officers.

Similarly, Fjeldstad and Heggstad, (2012) also reported that automation of revenue collection systems enhances the ability to work well and produce good/desired results by using automation in the most effective way, the ability to save time on payment and simplification of the payment process thus enhancing one's ease or comfort and leads to transparency. Ouma (2019) found that under the un automated system the revenue collection level was low compared to automated revenue collection. The need to automate revenue collection systems by KRA explain why the automation costs of KRA increased over the study period.

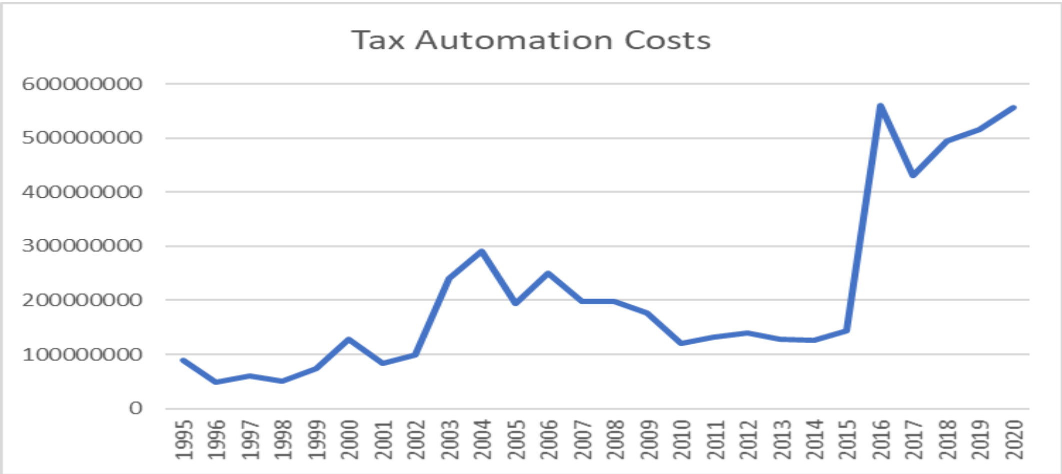

Figure 4.2: Trends in Tax Automation Expenditure

4.3.3 Tax Education Costs

Every year new tax payers are added in the tax bracket hence there is need for KRA to continuously invest in tax payers’ education. The trend in tax payers' education shown in figure 4.3 indicates that on average the expenditure on tax education increased. However, the amount spends on tax education oscillated from year to year which imply that some years KRA was aggressive in educating tax payer while other years the implementation of the tax payers’ education policies was very low. This fluctuation in amount spends on tax payers’ education also reflect the fluctuation on tax revenue collected. The finding could further imply that Tax Education Costs were proportion to tax revenue collected by KRA. The finding agreed with Adeyeye (2019) who reported that tax knowledge of majority of the respondents is improved after the provision of tax course. Greater parts of respondents before attending the tax course had weak general tax knowledge. But, because of attending the tax course, majority of the respondents show improvement in their general knowledge about tax.

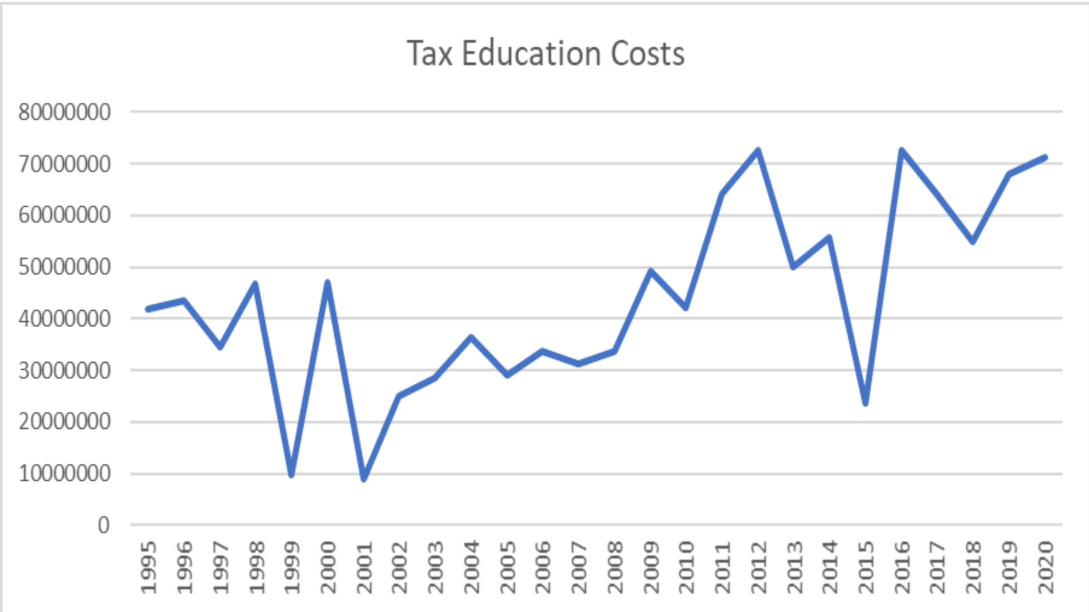

Figure 4.3: Trends in Amount Spend on Tax Education

4.3.4 Stakeholder Engagement Costs

The study further analyzed the trend in stakeholder engagement costs and how they affect tax revenue collection. The trend analysis shown in the figure below indicates that over the study period expenditure of stakeholder engagement reduced significantly. The findings implied that stakeholder engagement forums were important before introduction of the automation. This supports the argument of Mohammed and Sagwa, (2020) who argued that stakeholder engagement normally happens when an organization demand inputs from groups affected by its decision to weigh in their views on projects design and execution approaches.

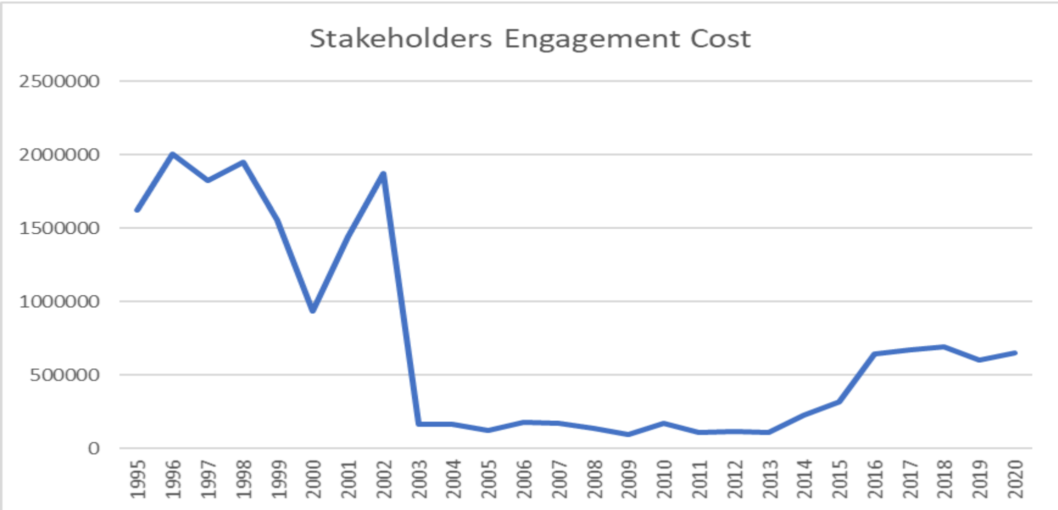

Figure 4.4: Trends in Amount Spend on Stakeholder Engagement

4.3.5 Tax Revenue Collected

The results in Figure 4.5 indicate that during the study period KRA has failed to meet its budgeted revenue with actual tax collected always being less than the budgeted tax. This study findings explain why it was necessary to establish the effect of taxation policies Implementation costs on tax revenue collection by KRA.

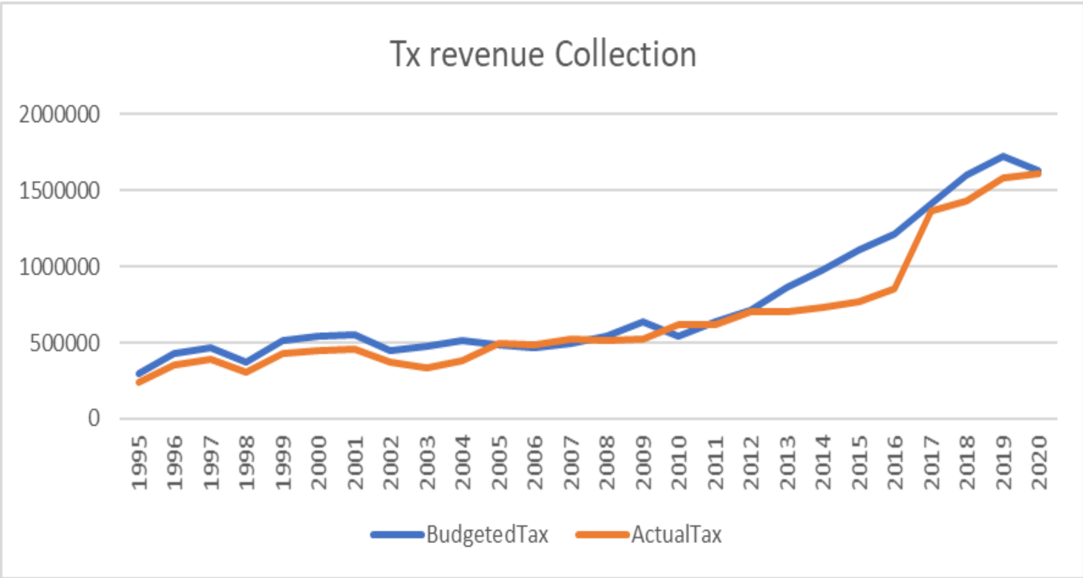

Figure 4.5: Trends in Tax Revenue Collected

4.3.6 Trend in Macroeconomic Factors

The results in figure 4.6 and 4.7 shows the trend analysis in macroeconomic factors which include interest rates, inflation and GDP. The results show that macroeconomic environment was unsteady during the study period. For instance, interest rates fluctuated from high of 34% in 1996 and to low of 11.99% in 2020. Similarly, inflation also oscillates between high of 26.239% in 2008 which coincided with post-election violence to low of 1.554% in 1995. This indicates that macroeconomic environment was not stable which may have impacted on the tax revenue collected by KRA. According to Muibi and Sinbo, (2013) more favorable macroeconomic conditions are expected to impact on the determinant of the tax revenue collection such as policy implementation, level of tax policy compliance among others. Higher incomes allow for higher levels of savings which in turn are likely to improve tax revenue paid to governments.

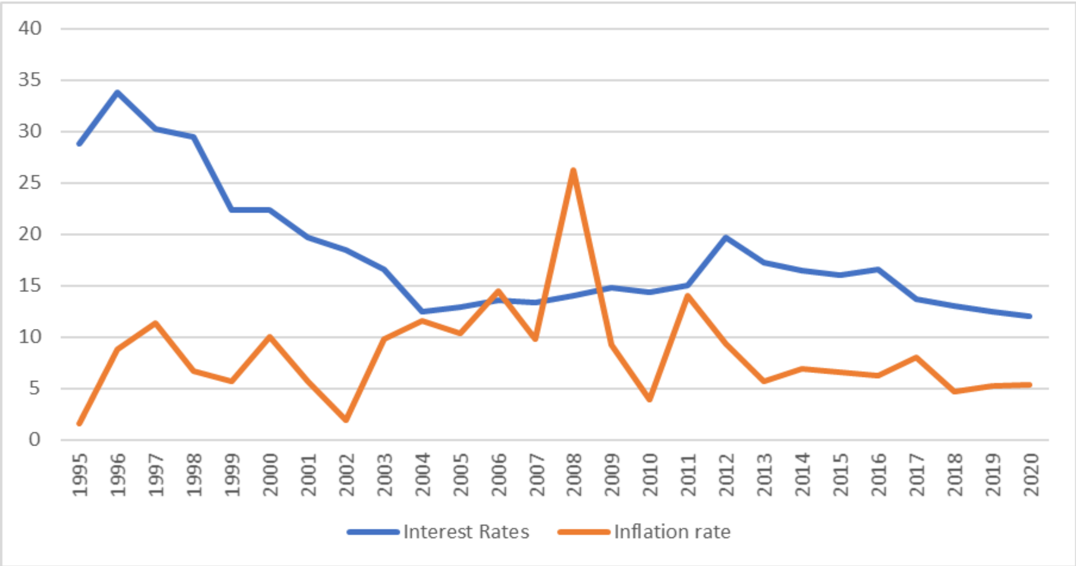

Figure 4.6: Trends in Interest Rates and Inflation

The results in figure 4.7 further indicate that exchange rates increased during the study period. These high increase in exchange impacted on business environment and economic growth also negatively affect growth in tax revenue collected. Mwinyimvua (2018) also observed that economic development generally coincides with an increase in tax revenue collected and hence it would be interesting to see whether the impact of taxation policies Implementation costs remains significant after controlling for interests' rates, exchange rate and inflation rates.

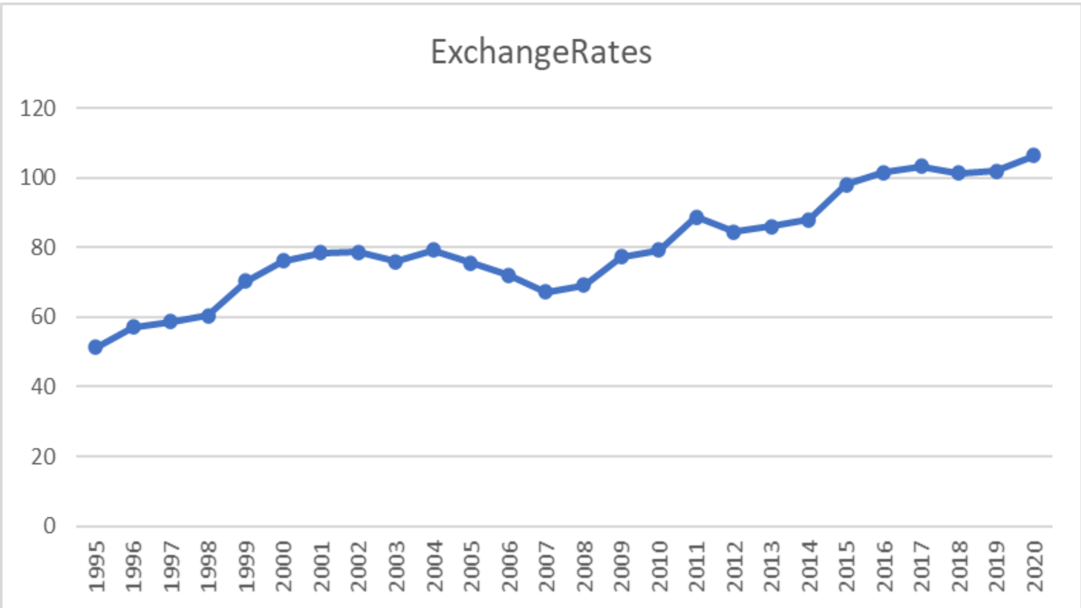

Figure 4.7: Trends in Exchange rates

4.3 Inferential Statistics

This section presents the results of the inferential statistics that were conducted to test the relationship between the independent variables and dependent variables. The section includes the results of correlation analysis, diagnostics test ad regression analysis. The correlation analysis was used to test the nature and strength of association between independent variable and dependent variable.

4.3.1 Correlation Analysis

The study further used correlation analysis to test the association between independent variables and dependent variable.

Table 4.2: Correlation Matrix

	Tax Revenue	tax enforcement costs	tax automation costs	tax education costs	stakeholder engagement costs	interest rate	inflation rate	EXRATES
Tax Revenue	1							
Tax Enforcement Costs	-0.2219	1						
Tax Automation Costs	0.8462	0.0555	1					
Tax Education Costs	0.6204	-0.2042	0.5932	1				
Stakeholder Engagement Costs	-0.3806	-0.3671	-0.4083	-0.3235	1			
Interest Rate	-0.5824	-0.361	-0.6174	-0.4295	0.8662	1		
Inflation Rate	-0.2632	0.1791	-0.2495	-0.1189	0.1622	0.1344	1	
EXRATES	0.9701	-0.1153	0.8568	0.661	-0.5326	-0.727	-0.2753	1

The results presented in Table 4.2 show that tax policy enforcement costs and had a correlation of r=-0.2219 with tax revenue collected by Kenya Revenue Authority. These results implied that tax policy enforcement costs had a weak negative association with tax revenue. This conclusion is reinforced by Chebusit, Namusonge, Oteki, and Kipkoech (2014), who found that the main challenge encountered by all tax authorities is that convincing all taxpayers to abide by a tax system's rules has never been simple. The finding is further confirmed by Jackson's (2013) assertion that long-term tax reform initiatives are necessary to increase and preserve a high level of tax compliance. To achieve this, authorities may be required to start with reinforcing the structure and management of the tax collection agency, developing and applying dynamic collection procedures (for example, remittance and withholding procedures) and also reinforcing the ability of the essential tax management functions (registration, filing and payment enforcement, debt collection, audit, taxpayer services, and processing of appeals).

The results also show that tax automation costs had very strong and positive association (r=0.8462) with tax revenue collected by KRA. The finding implied that the more taxman spends on automation and implementation of automation policies that more the revenue is collected. The findings further implied that automation expenditure improved revenue collected. This finding implies that the cost incurred by KRA in tax automation policy was a predictor of revenue collection by Kenya Revenue Authority. The finding is supported by Barako (2015) who established a significant correlation between the revenue collected and implementation of iTax. These results support those of Khadka (2015), who argued that the need for better revenue collection systems and policy in East African countries has been further highlighted by population growth and demands for transparency in tax implementation policy. Electronic tax systems are created with a need to lower the cost of tax implementation, ensure ease of compliance, and provide for accuracy and equity in tax implementation.

The finding also show that Tax education costs had strong positive correlation (r=0.6204) of revenue collected by KRA. The finding imp-lied that expenditure of implementation of tax education significantly improved the amount of tax revenue collected. The finding is supported by Andarias (2016) who established that taxpayer registration can enhance problem solving among taxpayers. He further recommended that technology adoption by taxpayers needs to be encouraged because it is the only way through which compliance by registration can be achieved easily. In this regard therefore the study recommended the need for tax officers and those in charge of technology adoption in their respective offices to put in place strategies that will enhance technology adoption by taxpayers. The current study on the other hand analyzed the effect of taxpayer education policy cost on revenue collection in Kenya.

The finding is further reinforced by Berhane (2011), who found that after the delivery of a tax course, the majority of respondents' tax knowledge improved. Before taking the tax course, a larger portion of respondents had poor general tax understanding. However, the majority of the respondents demonstrate an improvement in their overall tax knowledge as a result of taking the tax course. Therefore, offering tax education, awareness campaigns, or workshops to actual taxpayers can enhance their general tax literacy. The study also found that the majority of respondents have a positive attitude toward adhering to the tax regulations after taking the tax course.

On the other hand, the results show that stakeholder engagement costs had a weak negative association ($r=-0.3806$) of tax revenue collected. The results implied that spending more on the stakeholder engagement reduced the tax revenue collected by KRA. This conclusion is corroborated by Osebe (2013), who found that real estate investors' levels of tax compliance were positively impacted by their knowledge and education of taxes. Similar to how perceived opportunities for tax evasion had a negative impact, fines and penalties had a beneficial impact on the degree of tax compliance. The current study examined the impact of tax stakeholders' engagement on revenue collection as contrasted to compliant expenses. World Bank (2012) carried out a study on the efficiency of paying tax in Kenya and found that taxpayers face significant compliance costs and this interferes with their willingness to pay.

4.3.2 Diagnostic Tests

The data used in the current study being panel data in nature, key diagnostic tests were used ether to reject or accept data stationarity and cointergration hypotheses whose results are presented in section 4.2. The first test was Homoscedasticity meant to ensure that the residuals of the regression models were constant across time, hypothesized as; If the Prob > chi^2value is significant (Less than 0.05), the null hypothesis is rejected. The second test was Unit that tested autocorrelation in the panel data whose hypothesis was tested using Durban Watson D test. Augmented Dicky-Fuller test was further used to test for unit root stationarity. The study also carried out Hausman test to hypothesize the type of model to be adopted in the regression model of board composition and earnings quality.

4.3.2.1 Tests of Normality

In this study, normality was tested using Shapiro-Wilk test which according to Field has more power to detect differences from normality. Shapiro-Wilk statistic ranges from zero to one. Probabilities (Sig value) > 0.05 mean the data is normally distributed while probabilities (Sig value) < 0.05 mean the data significantly deviate from normal (Razali & Wah, 2011).

Table 4.3: Tests of Normality

	Shapiro-Wilk		
Tests of Normality	**Statistic**	**df**	**Sig.**
Tax Enforcement Costs	0.972	26	0.216
Tax Automation Costs	0.991	26	0.278
Tax Education Costs	0.968	26	0.389
Stakeholders Engagement Cost	0.974	26	0.396
Interest Rate	0.954	26	0.301
Inflation Rate	0.978	26	0.386
EXRATES	0.987	26	0.457
Revenue Collected	0.979	26	0.387

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

The results presented in Table 4.3 show that the Shapiro-Wilk-Statistics for all the variables had p-values greater than 0.05. Therefore, the null hypothesis that data is not significantly different from normal distribution was not rejected implying the data for all the variables was normal distributed. The data therefore adhered to the regression assumption of normal distribution.

4.3.2.2 Tests of Multicollinearity

The study used Variance inflation factors (VIF) to test for multicollinearity. A threshold of VIF $\leq$ 10 was used to interpret that there is no problem of multicollinearity. The results are presented in Table 4.4.

Table 4.4: Tests of Multicollinearity

	Collinearity Statistics	
	Tolerance	**VIF**
Tax Enforcement Costs	0.441	2.267
Tax Automation Costs	0.207	4.842
Tax Education Costs	0.52	1.922
Stakeholders Engagement Cost	0.212	4.708
Interest Rate	0.114	8.757
Inflation Rate	0.845	1.184
Exchange Rates	0.111	8.98

a Dependent Variable: Tax Revenue

The results in Table 4.4 show that there was no threat of multicollinearity since all the variables had VIF of less than 10. The findings show that multicollinearity assumption was adhered to. Poole and O'Farrell (1971) contend that if multicollinearity assumption is not satisfied and the independent variables are thus multicollinearity, the result is that the individual regression Coefficients for each variable are not identifiable.

4.3.2.3 Stationarity Test

Panel unit root test was carried out in order to avoid spurious regression results. There are various tests that can be carried out to test the panel root test; The Levin–Lin–Chu (2002), Harris–Tzavalis (1999), Breitung (2000; Breitung and Das 2005), Im–Pesaran–Shin (2003), and Fisher-type (Choi 2001) tests have as the null hypothesis that all the panels contain a unit root. This study applied Fisher-type test because it has more advantages than other panel unit root tests. The Hadri (2000) Lagrange multiplier (LM) test has as the null hypothesis that all the panels are (trend) stationary. Options allow you to include fixed effects and time trends in the model of the data-generating process. For the current study, the Fisher–type unit root test specification of Dickey-Fuller test was used. The Dickey-Fuller test was chosen for panel root test because it can be used with serial correlation. Secondly, the ADF test can handle more complex models of which the current study has a complex model involving control variables.

Within the panel unit root-testing framework, there are two generations of tests. The first generation of tests assumes that cross-section units are cross-sectionally independent (Non-Stationarity); whereas the second generation of panel unit root tests relaxes this assumption and allows for cross-sectional dependence (Stationarity). The current study carried out panel root test using stationarity test. Estimators are inefficient if the variables in a panel data are non-stationary unless they are cointegrated.

Given that the government taxation policies can affect revenue collection by Kenya Revenue Authority over the 26 years' period (1995-2020) as shown by the analysis of variance, it is key to determine that the changes in government taxation policies are not due to an increasing or decreasing trend of revenue collection with time. Being the dependent variable, significance in a linear trend of revenue collection would imply non-stationarity and the need to de-trend the data before further panel model analysis. To determine whether revenue collection exhibits a trend, the study used a unit root test. The stationarity unit-root test was done to confirm whether there is stationarity in all panels.

Table 4.5: First Differenced Unit Root Test Results

Methods - Levin-Lin-Chu unit-root test	At Level		At First Difference	
Chi-Square	**Intercepts**	**Significance**	**Statistics**	**Significance**
Revenue Collection	294	0.376	109.147	0.0031
Tax Enforcement costs	207	0.219	118.241	0.0115
Tax Automation costs	316	0.604	207.171	0.004
Taxpayers Education costs	28	0.113	19.1191	0.0161
Stakeholders Engagement costs	194	0.419	106.812	0.0273
Interest Rate	217	0.367	114.907	0.0017
Inflation Rate	163	0.162	108.037	0.0227
Exchange Rates	308	0.426	113.170	0.019

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution

Table 4.5 results show that all the variables passed the panel unit root test with p-values less than 0.05, indicating that the null hypothesis of unit root for all the variables under consideration is rejected. This leads to the conclusion that the panel data is stationary and that the regression results that result from it cannot be viewed as spurious or directionless for either of the independent variables (Tax Enforcement) (Revenue Collection). The results in Table 4.5 indicate that the data were stationary at first difference which implies that they are integrated of the first order.

4.3.2.4 Autocorrelation Test

The study tested for autocorrelation using Durbin-Watson. The study used threshold of 1.5< d<2.5 to mean that there is no autocorrelation in the data as recommended by (Field, 2009).

Table 4.6: Autocorrelation Test

Model	Durbin-Watson
1	2.08

a Predictors: (Constant), Tax Enforcement costs, Tax Automation costs, Taxpayers Education costs Stakeholders Engagement
b Dependent Variable: Tax Revenue

The results in Table 4.6 show Durbin-Watson statistics of 2.08 which indicates there was no autocorrelation in the data. The findings implied that the variables were not correlated in any statistically significant way and this ensured the independence of errors and enhanced accuracy of the regression models.

4.3.2.5 Heteroscedasticity Test

This study used Levene test to test for homoscedasticity as suggested by Field (2013). Where the values of the Levene test probability statistics are more than significant level of p=0.05 it means that the variances are equal. Value should be greater than .05 to meet the homoscedasticity assumption and allow further analysis using the regression model.

Table 4.7: Test of Homogeneity of Variances

Test of Homogeneity of Variances	Levene Statistic	Sig.
Tax Enforcement costs	1.751	0.099
Tax Automation costs	0.002	0.961
Taxpayers Education costs	0.105	0.746
Stakeholders Engagement	1.051	0.154
Macroeconomic Factors	1.911	0.090

The results show that all the variables had Levene statistics with p-value greater than 0.05 implying the study failed to reject the null hypothesis that data in homoscedasticity, hence this assumption was achieved. These findings are supported Vynck (2017) who contends ignoring the presence of this heteroscedasticity by fitting ordinary least squares regression models (a method that assumes homoscedasticity) results in inefficient regression parameter estimators and a biased and inconsistent covariance matrix estimator.

4.3.3 Univariate Regression Analysis Results

Prior to conducting multivariate regression analysis which the study relied on for hypotheses testing, univariate regression was conducted to test the effect of each independent variable on dependent variables other factors held constant. The study sought to establish the contribution of each taxation policy Implementation cost on tax revenue collected by KRA.

4.3.3.1 Effect Tax Enforcement Costs on Tax Revenue Collection

The first objective of the study was to test the effect of Tax Enforcement Costs on Tax Revenue Collection by KRA in Kenya. This section presents the results of univariate analysis that was used to test relationship between tax enforcement costs and tax revenue collection other factors held constant.

Table 4.8: Tax Enforcement Costs and Tax Revenue

Actual Tax	**Coef.**	**Std. Err.**	**t**	**P>|t|**	**[95% Conf.**	**Interval]**
Tax Enforcement Costs	-0.35438	0.1103	-3.211	0.039	-0.71835	0.009597
_cons	19.4715	3.088716	6.300	0.000	13.09671	25.8463

Number of obs = 26
F(1, 24) = 4.75
Prob > F = 0.0394
R-squared = 0.1651
Adj R-squared = 0.1303

Optimal Model

$$\mathbf{Yt = 19.4715 - 0.35438X_1} + \varepsilon_t$$

Where;

Yt = Revenue Collection

X_1 = Taxation Enforcement Policy Cost

ε_t = the error term

The results show the model was statistically significant F(1, 24) = 4.75, Prob > F = 0.039. These findings implied the model had a goodness of fit and could be used to predict the effect of tax enforcement costs on tax revenue collection. The coefficient of determination R-squared = 0.1651 implied that other factors held constant, tax policy enforcement costs accounted for 16.51% of the variation of tax revenue collected by KRA in Kenya.

The regression coefficient of Tax Enforcement Costs in the model was β=-0.35438 p=0.039 meaning that tax enforcement costs negatively and significantly affected tax revenue collected by KRA in Kenya. The findings implied increasing tax policy enforcement cost would reduce the tax revenue collected by KRA by -0.35438. The finding further implied too much enforcement of policies by KRA had inverse relationship with tax revenue collected. This finding supports Nicoleta (2011) who established that the main issue faced by all tax authorities is that it has never been easy to persuade all taxpayers to comply with the regulations of a tax system.

4.3.3.2 Effect Tax Automation Costs on Tax Revenue Collection

The study further sought to test the effect of Tax Automation Costs on Tax Revenue Collection by KRA in Kenya. Table 4.9 presents the results of univariate analysis that was used to test relationship between tax automation costs and tax revenue collection other factors held constant.

Table 4.9: Tax Automation Costs and Tax Revenue

Tax Revenue	**Coef.**	**Std. Err.**	**T**	**P>|t|**	**[95% Conf.**	**Interval]**
Tax Automation Costs	0.5156	0.096383	5.35	0.000	0.316675	0.714525
_cons	3.513093	1.824763	1.93	0.066	-0.25303	7.279218

Number of obs = 26
F (1, 24) = 28.62
Prob > F = 0.0000
R-squared = 0.5439
Adj R-squared = 0.5249

Optimal Model

$$\mathbf{Yt = 3.513093 + 0.5156X_2} + \varepsilon_t$$

Where;

Yt = Revenue Collection

X_2 = Tax Automation Costs

ε_t = the error term

The results show the model was statistically significant F (1, 24) = 28.62, Prob > F = 0.0000 which implied the model had a goodness of fit and could be used to predict the effect of tax automation costs on tax revenue collection. The coefficient of determination R-squared = 0.5439 implied that other factors held constant, tax automation costs accounted for 54.39% of the variation of tax revenue collected by KRA in Kenya. The findings show the explanatory power of automation costs was very high.

The regression coefficient of Tax Automation Costs in the model was β=0.5156, p=0.039 meaning that tax automation costs positively and significantly affected tax revenue collected by KRA in Kenya. The findings implied increasing tax automation cost would increase the tax revenue collected by KRA by 0.5156. Amount spend on tax system automation significantly improved the amount of tax collected by KRA. The finding is supported by Barako (2015) who established a significant correlation between the revenue collected and implementation of i-Tax. These results support those of Khadka (2015), who argued that the need for better revenue collection systems and policy in East African countries has been further highlighted by population growth and demands for transparency in tax implementation policy. Electronic tax systems are created with a need to lower the cost of tax implementation, ensure ease of compliance, and provide for accuracy and equity in tax implementation.

4.3.3.3 Effect Tax Payer Education Costs on Tax Revenue Collection

The study also sought to test the effect of Tax Payer Education Costs on Tax Revenue Collection by KRA in Kenya. Table 4.10 presents the results of univariate analysis that was used to test relationship between Tax Payer Education Costs and tax revenue collection other factors held constant.

Table 4.10: Tax Payer Education Costs and Tax Revenue

Actual Tax	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Tax Education Costs	0.458416	0.169303	2.71	0.012	0.108992	0.80784
_cons	5.253169	2.961277	1.77	0.089	-0.85861	11.36494

Number of obs = 26
F(1, 24) = 7.33
Prob > F = 0.0123
R-squared = 0.2340
Adj R-squared = 0.2021

Optimal Model

$$\mathbf{Yt = 0.458416+5.253169\ X_3 + \varepsilon_t}$$

Where;

Yt = Revenue Collection

X_3 = Tax Education costs

ε_t = the error term

The results show the model was statistically significant F (1, 24) = 7.33, Prob > F = 0.0123 which implied the model had a goodness of fit and could be used to predict the effect of Tax Payer Education Costs on tax revenue collection. The coefficient of determination R-squared = 0.2340 implied that other factors held constant, Tax Payer Education Costs accounted for 23.40% of the variation of tax revenue collected by KRA in Kenya. Similarly, the coefficient β=0.458416, p=0.012 was positive and statistically significant at 5 percent. These findings implied that increase in Tax Payer Education Costs increased tax revenue collected by KRA. The finding agreed with Berhane (2011) who reported that tax knowledge of majority of the respondents is improved after the provision of tax course. Greater parts of respondents before attending the tax course had weak general tax knowledge. But, because of attending the tax course, majority of the respondents show improvement in their general knowledge about tax.

4.3.3.4 Effect Stakeholders' Engagement Cost on Tax Revenue Collection

The fourth objective of the study was to determine the effect of Stakeholders' engagement cost on Tax Revenue Collection by KRA in Kenya. Table 4.11 presents the results of univariate analysis that was used to test relationship between Stakeholders' engagement cost and tax revenue collection other factors held constant.

Table 4.11: Stakeholders' Engagement Cost and Tax Revenue

Actual Tax	**Coef.**	**Std. Err.**	**t**	**P>|t|**	**[95% Conf.**	**Interval]**
Stakeholders Engagement Cost	-0.07997	0.092554	-0.86	0.396	-0.27099	0.111054
_cons	14.30226	1.2016	11.9	0.000	11.82228	16.78224

Number of obs = 26
F(1, 24) = 0.75
Prob > F = 0.3961
R-squared = 0.0302
Adj R-squared = 0.0102

Optimal Model

$$Yt = 14.30226 - 0.07997X_3 + \varepsilon_t$$

Where;

Yt = Revenue Collection

X_4 = Stakeholders' engagement cost

ε_t = the error term

This univariate model was statistically insignificant F (1, 24) = 0.75, Prob > F = 0.3961 which implied that Stakeholders' engagement cost did not significant predict tax revenue collected by KRA. The variation of tax revenue collection attributed to Stakeholders' engagement cost was 6.68% which was insignificant at 5 percent level of significance. The coefficient β=-0.07997, p=0.396 was also statistically insignificant at 5 percent.

4.3.4 Multivariate Regression Analysis Results

Multivariate regression was fitted to test whether taxation policy Implementation costs (tax policy enforcement costs, tax automation policy costs, taxpayer's education policy costs, stakeholders' engagement policy costs) significantly predicted tax revenue collected by KRA.

Table 4.12: Multivariate Regression Analysis Results

Actual Tax	**Coef.**	**Std. Err.**	**t**	**P>|t|**	**[95% Conf.**	**Interval]**
Tax Enforcement Costs	-0.367	0.1265	-2.900	0.009	-0.630	-0.104
Tax Automation Costs	0.491	0.0963	5.100	0.000	0.291	0.692
Tax Education Costs	0.057	0.1352	0.420	0.678	-0.224	0.338
Stakeholders Engagement Cost	-0.021	0.0640	-0.320	0.750	-0.154	0.112
_cons	9.669	4.2069	2.300	0.032	0.921	18.418

Number of obs = 26
F(4, 21) = 12.52
Prob > F = 0.0000
R-squared = 0.7045
Adj R-squared = 0.6482

The optimal model therefore became;

$$\mathbf{Yt = 9.669 - 0.367X_1 + 0.491X_2 + 0.057X_3 - 0.021X_4 +} \varepsilon_t$$

Where;

Yt = Revenue Collection

X_1 = Taxation Enforcement Policy Cost

X_2= Taxation Automation Policy Cost

X_3 = Tax Payers Education Cost

X_4= Stakeholders Engagement Cost

ε_t = the error term

The model fitted had an Adjusted R Square = 0.7045 which show, taxation policy Implementation costs (tax policy enforcement costs, tax automation policy costs, taxpayer's education policy costs, stakeholders' engagement policy costs) explained 70.45% of the variation in tax revenue collected by KRA. These findings show that taxation policy Implementation costs are significant predictor variables of tax revenue collected by KRA.

The results of the ANOVA of the model fitted to test the effect of taxation policy Implementation costs (tax policy enforcement costs, tax automation policy costs, taxpayer's education policy costs, stakeholders' engagement policy costs) show f-statistics =12.52, p-value =0.000 which was less than 0.05. The results therefore failed to reject the null hypothesis that model fitted had a goodness of fit. These results established that taxation policy Implementation costs significantly explained tax revenue collected by KRA since the model was statistically significant at 5 percent level of significance.

According to the findings, only the costs associated with tax enforcement and automation policies had a substantial impact on Kenya Revenue Authority's (KRA's) ability to collect taxes. However, the expenses associated with tax enforcement suggest that too zealous implementation of tax enforcement had a detrimental impact on tax revenue collection. On the other side, the costs associated with tax automation had a favorable impact on tax revenue gathered. These imply that government tax revenue was increased through implementation automation. The costs associated with stakeholder engagement and tax payer education were shown to have a negligible impact on tax revenue collection. The outcomes of evaluating hypotheses based on the findings of multivariate regression analysis are shown in the next section.

4.4 Test of Hypotheses

This section presents the results on test of hypotheses which was conducted using multivariate regression analysis. Multivariate regression was fitted to test whether taxation policy Implementation costs (tax policy enforcement costs, tax automation policy costs, taxpayer’s education policy costs, stakeholders’ engagement policy costs) significantly predicted tax revenue collected by KRA.

H_{01}: Tax policy enforcement costs has no significant effect on revenue collection by Kenya Revenue Authority.

The study's hypothesis was H01: The Kenya Revenue Authority's ability to collect money from taxes is not significantly impacted by the costs associated with enforcing tax laws. According to Table 4.7 findings, the cost of enforcing tax policy was =-0.367, p=0.0090.05. The results demonstrate that tax policy enforcement expenses had a negative and considerable impact on the amount of taxes that KRA was able to collect. The findings also indicate that a rise in the cost of enforcing tax laws would reduce tax income received by KRA by 0.367 units. The conclusion also suggested that the mechanism utilized by KRA to enforce taxes had a negative impact on the amount of tax money that was collected.

These finding are in line with resourced based view theory which posits that availability of the adequate resources enhance the performance of an institution. The finding is further supported by Jackson (2013) believes that to improve and sustain a significant level of tax compliance, demands focus on long-run tax reform initiatives. To achieve this, authorities may be required to start with reinforcing the structure and management of the tax collection agency, developing and applying dynamic collection procedures (for example, remittance and withholding procedures) and also reinforcing the ability of the essential tax management functions (registration, filing and payment enforcement, debt collection, audit, taxpayer services, and processing of appeals).

H_{02}: Tax automation costs has no significant on revenue collection by Kenya Revenue Authority.

The study further tested the hypothesis H_{02}: Tax automation costs has no significant effect on revenue collection by Kenya Revenue Authority. The results in Table 4.7 show that the coefficient for Tax automation costs was $\beta=0.491$, $p=0.0000<0.05$. The findings show that Tax automation costs had a positive and significant effect on tax revenue collected by KRA. The results further show that increase in Tax automation costs would result to increase in tax revenue collected by KRA by 0.491units. Based on these findings, the study rejected H_{02}: Tax automation costs has no significant effect on revenue collection by Kenya Revenue Authority. The finding is supported by Barako (2015) who established a significant correlation between the revenue collected and implementation of iTax.

The finding further concurs with Oduor, Sevilla, Wanyoike and Mutua (2016) who argued that embracing of emerging technologies and tax payment methods that are more efficient so as they can reduce wastage. One of the technologies he argues is electronic tax system which so far has been embraced by the Kenya Revenue Authority. Similarly, Ajape, Afara and Uthman (2017) noted that improvement in Implementation would lead to increased revenue performance. He further argued that, if a tax is well administered, then inevitably revenue collections have to increase. It is the only way one can be able to know whether a tax is well administered or not. These finding supports those of Khadka (2015) who argued that population growth and demands for transparency in tax Implementation policy has further emphasized the need for better revenue collection systems and policy in East African countries electronic tax systems are designed with a need to reduce cost of tax Implementation, ensure ease of compliance, and provide for accuracy and equity in tax Implementation.

H_{03}: Taxpayer's education policy costs do not significantly affect revenue collection by Kenya Revenue Authority.

The third hypothesis of the study was H_{03}: Taxpayer's education policy costs do not significantly affect revenue collection by Kenya Revenue Authority. The results in Table 4.7 show that the coefficient for Taxpayer's education policy costs was $\beta=0.057$, $p=0.678>0.05$. The findings show that Taxpayer's education policy costs had a positive and insignificant effect on tax revenue collected by KRA. The results further show that increase in Taxpayer's education policy costs would result to increase in tax revenue collected by KRA by 0.057 units. Based on these findings, the study failed to reject H_{03}: Taxpayer's education policy costs has no significant effect on revenue collection by Kenya Revenue Authority. The finding is supported by Andarias (2016) who established that taxpayer registration can enhance problem solving among taxpayers. He further recommended that technology adoption by taxpayers needs to be encouraged because it is the only way through which compliance by registration can be achieved easily. In this regard therefore the study recommended the need for tax officers and those in charge of technology adoption in their respective offices to put in place strategies that will enhance technology adoption by taxpayers. The current study on the other hand analyzed the effect of taxpayers' education policy cost on revenue collection in Kenya.

The finding is further corroborated by Lokarach and Rugami (2019), who found that the majority of respondents' tax knowledge improved following the delivery of a tax course. Before taking the tax course, a larger portion of respondents had poor general tax understanding. However, the majority of the respondents demonstrate an improvement in their overall tax knowledge as a result of taking the tax course.

Therefore, offering tax education, awareness campaigns, or workshops to actual taxpayers can enhance their general tax literacy. The study also found that the majority of respondents have a positive attitude toward adhering to the tax regulations after taking the tax course.

H_{04}: Stakeholders' engagement policy costs have no significant effect on revenue collection by Kenya Revenue Authority.

The study's H04, or third hypothesis, stated that the expenditures associated with policies for stakeholder involvement had no appreciable impact on Kenya Revenue Authority's ability to collect taxes. According to Table 4.7's findings, the cost of the policy for engaging stakeholders was -0.021, p=0.750 > 0.05. The results demonstrate that KRA's tax revenue collection was negatively and negligibly impacted by the costs associated with their stakeholder engagement program. The findings also indicate that a rise in the costs associated with KRA's policy on stakeholder involvement will lead to a 0.021-unit drop in tax collection. Based on these results, the study was unable to refute H04: Stakeholder engagement policy expenditures have no discernible impact on Kenya Revenue Authority revenue collection.

This conclusion is corroborated by Bellucci, Manetti, and Thorne (2018), who found that real estate investors' tax compliance levels were positively impacted by their level of tax awareness and education. Similar to how perceived opportunities for tax evasion had a negative impact, fines and penalties had a beneficial impact on the degree of tax compliance. The current study examined the impact of tax stakeholders' engagement on revenue collection as contrasted to compliant expenses. In a 2012 World Bank study on the effectiveness of paying taxes in Kenya, it was discovered that taxpayers incur high compliance costs, which reduce their willingness to pay.

H_{05}: Macroeconomics factors have no statistically significant moderating effect on the relationship between taxation policy Implementation costs and revenue collection by Kenya Revenue Authority.

The final objective of the study was to test the moderating effect of macroeconomic factors on the relationship between taxation policy implementation costs and tax revenue collected by Kenya revenue authority in Kenya. The macroeconomic factors used in this study include inflation rates, exchange rates and interest rates. The study adopted a moderated multivariate regression analysis where all the moderating variables were interacted with the independent variables to generate an interaction variable. These objectives had three sub hypotheses that were tested.

H_{05a}: Inflation rates have no statistically significant moderating effect on the relationship between taxation policy Implementation costs and revenue collection by Kenya Revenue Authority

This section presents the results of moderated multivariate regression analysis testing the moderating effect of inflation rates on the relationship between taxation policy Implementation costs and revenue collection by Kenya Revenue Authority. The results are shown in table 4.13.

Table 4.13: Moderating effect of inflation Rates

Actual tax revenue	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Tax Enforcement Costs	-0.01108	0.004864	-2.28	0.037	-0.0214	-0.00077
Tax Automation Costs	0.003214	0.001061	3.03	0.008	0.000965	0.005462
Tax Education Costs	-0.00423	0.006222	-0.68	0.506	-0.01742	0.00896
Stakeholders Engagement Cost	-0.11399	0.147223	-0.77	0.45	-0.42608	0.198113
Inflation Rate	-39005.4	80756.09	-0.48	0.636	-210201	132189.9
X1*INF	0.000762	0.00065	1.17	0.258	-0.00062	0.00214
X2*INF	-0.00024	0.000166	-1.44	0.170	-0.00059	0.000114
X3*INF	0.000718	0.000822	0.87	0.395	-0.00102	0.00246
X4*INF	-0.00162	0.01867	-0.09	0.932	-0.0412	0.037959
_cons	897222.5	534722.5	1.68	0.113	-236339	2030784

Number of obs = 26
F(9, 16) = 10.89
Prob > F = 0.0000
R-squared = 0.8597
Adj R-squared = 0.7808

The moderated multivariate regression model had F(9, 16) =10.89 with the corresponding p-value 0.000 which implied that model fitted was statistically significant and had a goodness of fit. The model had R-squared of 0.8597 which implied that inclusion of inflation rates in the model significant improved R-squared from 0.8126 to 0.8597. The finding implied that inflation rates enhance the explanatory power of independent variables.

The coefficient for X1*INF was β=0.000762, p=0.258 which was greater than 0.05 implying that inflation rates had an insignificant moderating effect on the relationship between tax policy enforcement costs and tax revenue collected by Kenya revenue authority. The coefficient for X2*INF was β=-0.00024, p=0.170 which was greater than 0.05 implying that inflation rates had an insignificant moderating effect on the relationship between tax automation policy implementation costs and tax revenue collected by Kenya revenue authority.

The coefficient for X3*INF was =0.000718, p=0.395, which was also greater than 0.05, indicating that inflation rates had a negligible moderating influence on the association between the adoption of a tax education strategy and the amount of taxes that the Kenyan revenue authority was able to collect.

Finally, the findings indicate that X4*INF was =-0.00162, p=0.932, which is also greater than 0.05, indicating that inflation rates had a negligible moderating effect on the relationship between the cost of implementing the policy for tax stakeholders' engagement and the amount of tax revenue collected by the Kenya Revenue Authority.

The hypothesis H05a, which states that inflation rates have no statistically significant moderating influence on the link between the cost of implementing a tax policy and the amount of money collected by the Kenya Revenue Authority, was not rejected by this study. According to the study's findings, there is no significant association between inflation rates and Kenya Revenue Authority revenue collection expenses and tax policy implementation costs.

The results don't support those of Chepkonga (2016), who concentrated on the connection between macroeconomic factors and tax collection and found that the amount of tax collected varies linearly with the rate of inflation, FDI, unemployment rate, and level of disposable income.

H_{05b}: Exchange rates have no statistically significant moderating effect on the relationship between taxation policy Implementation costs and revenue collection by Kenya Revenue Authority

This section presents the moderated multiple regression model that was used to test the moderating effect of exchange rates on the relationship between taxation policy Implementation costs and revenue collection by Kenya Revenue Authority.

Table 4.14: Moderating effect of Exchange Rates

Actual tax revenue	Coef.	Std. Err.	T	P>|t|	[95% Conf.	Interval]
Tax enforcement costs	0.044506	0.005707	7.8	0.000	0.032408	0.056604
Tax automation costs	-0.00366	0.00294	-1.24	0.231	-0.00989	0.002572
Tax education costs	0.005788	0.010877	0.53	0.602	-0.01727	0.028845
Stakeholders' engagement cost	0.743802	0.35316	2.11	0.051	-0.00486	1.492468
Exchange Rates	45305.4	8715.674	5.2	0.000	26829	63781.81
X_1*EXRATES	-0.00059	0.00007	-8.41	0.000	-0.00074	-0.00044
X_2*EXRATES	4.31E-05	3.07E-05	1.4	0.179	-2.2E-05	0.000108
X_3*EXRATES	-8E-05	0.000131	-0.61	0.551	-0.00036	0.000198
X_4*EXRATES	-0.01056	0.004326	-2.44	0.027	-0.01973	-0.00139
_cons	-285566	756595.2	-3.77	0.002	-445957	-125175

Number of Obs = 26
F(9, 16) = 90.08
Prob > F = 0.0000
R-squared= 0.9806
Adj R-squared = 0.9698

The moderated multivariate regression model had F(9, 16) =90.08 with the corresponding p-value 0.000 which implied that model fitted was statistically significant and had a goodness of fit. The model had R-squared of 0.9806 which implied that inclusion of exchange rates in the model significant improved R-squared from 0.8126 to 0.9806. The finding implied that exchange rates enhance the explanatory power of independent variables.

The results of the moderated multivariate regression model coefficient for X1*EXRATES was β=-0.00059, p=0.000 which was less than 0.05 implying that exchanges rates had a significant moderating effect on the relationship between tax policy enforcement costs and tax revenue collected by Kenya revenue authority. The coefficient for X2*EXRATES was β=4.31E-05, p=0.179 which was greater than 0.05 implying that exchange rates had an insignificant moderating effect on the relationship between tax automation policy implementation costs and tax revenue collected by Kenya revenue authority.

The coefficient for X3*EXRATES was β=-8E-05, p=0.551 which was also greater than 0.05 implying that exchange rates had an insignificant moderating effect on the relationship between tax education policy implementation and tax revenue collected by Kenya revenue authority. Finally, the results show that X4*EXRATES was β=-0.01056, p=0.027 which was also less than 0.05 implying that exchange rates had a significant moderating effect on the relationship between tax stakeholders' engagement policy implementation cost and tax revenue collected by Kenya revenue authority.

The study rejected this H05b: Exchange rates have no statistically significant moderating effect on the relationship between tax policy enforcement costs and tax stakeholders' engagement policy implementation cost and revenue collection by Kenya Revenue Authority while rejected the hypotheses in regard to tax automation cost and taxpayer education costs. The study finding supported those by Shivanda and Obwogi (2019) who concluded that interest rate and exchange rate are important macro-economic factors influencing tax revenue collection in Kenya.

H_{05c}: Interest rates have no statistically significant moderating effect on the relationship between taxation policy Implementation costs and revenue collection by Kenya Revenue Authority

The further fitted a moderated multivariate regression model to test whether Interest rates have a statistically significant moderating effect on the relationship between taxation policy Implementation costs and revenue collection by Kenya Revenue Authority.

Table 4.15: Moderating effect of Interest Rates

Actual tax revenue	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Tax enforcement costs	-0.0116	0.010447	-1.11	0.283	-0.03374	0.010549
Tax automation costs	0.006556	0.001691	3.88	0.001	0.002972	0.01014
Tax education costs	0.008093	0.013106	0.62	0.546	-0.01969	0.035876
Stakeholders' engagement cost	0.474566	0.317915	1.49	0.155	-0.19938	1.148515
Interest rates	54450.34	62419.9	0.87	0.396	-77873.9	186774.6
X1*INTRATES	0.000559	0.000722	0.77	0.451	-0.00097	0.00209
X2*INTRATES	-0.00037	0.000111	-3.35	0.004	-0.00061	-0.00014
X3*INTRATES	-0.00027	0.000697	-0.39	0.705	-0.00175	0.001209
X4*INTRATES	-0.02951	0.018719	-1.58	0.134	-0.06919	0.010174
_cons	-418157	994473.9	-0.42	0.68	-2526347	1690034

Number of obs = 26
F(9, 16) = 19.62
Prob > F = 0.0000
R-squared = 0.9169
Adj R-squared = 0.8702

The moderated multivariate regression model had F (9, 16) = 19.62 with the corresponding p-value 0.000 which implied that model fitted was statistically significant and had a goodness of fit. The model had R-squared of R-squared = 0.9169 which implied that inclusion of interest rates in the model significant improved R-squared from 0.8126 to R-squared = 0.9169. The finding implied that interest rates enhance the explanatory power of independent variables.

The results of the moderated multivariate regression model coefficient for X1*INTRATES was β=0.000559, p=0.451 which was greater than 0.05 implying that interest rates had an insignificant moderating effect on the relationship between tax policy enforcement costs and tax revenue collected by Kenya revenue authority. The coefficient for X2*INTRATES was β=-0.00037, p=0.004 which was less than 0.05 implying that interest rates had a significant moderating effect on the relationship between tax automation policy implementation costs and tax revenue collected by Kenya revenue authority.

The coefficient for X3*INTRATES was β=-0.00027, p=0.705 which was also greater than 0.05 implying that interest rates had an insignificant moderating effect on the relationship between tax education policy implementation and tax revenue collected by Kenya revenue authority. Finally, the results show that X4*EXRATES was β=-0.02951, p=0.134 which was also less than 0.05 implying that interest rates had a significant moderating effect on the relationship between tax stakeholders' engagement policy implementation cost and tax revenue collected by Kenya revenue authority.

The study rejected the hypothesis H_{05c}: Interest rates have no statistically significant moderating effect on the relationship between tax automation policy implementation costs and revenue collection by Kenya Revenue Authority. The study finding supported those by Shivanda and Obwogi (2019) who concluded that interest rate and exchange rate are important macro-economic factors influencing tax revenue collection in Kenya. However, the study failed to reject this hypothesis in regard to tax stakeholders' engagement policy implementation cost, tax policy enforcement costs and tax education policy implementation cost.

Table 4.16: Summary of test for Moderation Effect of Macroeconomic factors

Moderating variables	R-squared Before Moderation	R-squared After moderation	Change	Conclusion
Inflation rates	0.8126	0.8597	0.0471	Inflation rates positively enhanced relationships between taxation policies Implementation costs and tax revenue collection by KRA
Exchange rates	0.8126	0.9806	0.168	Exchange rates positively enhanced relationships between taxation policies Implementation costs and tax revenue collection by KRA
Interest rates	0.8126	0.9169	0.1043	Interest rates positively enhanced relationships between taxation policies Implementation costs and tax revenue collection by KRA

Table 4.17 presents the overall model for moderating effect of macroeconomic variables on the relationship between taxation policy implementation costs, and revenue collection in Kenya.

Table 4.17: Overall Moderating Effect of Macroeconomics factors

Tax Revenue Collected	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Tax enforcement costs	-0.00633	0.002618	-2.420	**0.039**	-0.01225	-0.00041
Tax automation costs	0.000569	0.001261	0.450	0.662	-0.00228	0.003421
Tax education costs	-0.00642	0.005326	-1.210	0.259	-0.01847	0.005627
Stakeholders' engagement cost	-0.05482	0.151733	-0.360	0.726	-0.39806	0.288425
X_1*INT	0.000297	0.000111	2.670	**0.026**	4.53E-05	0.000548
X_1*INF	-9.9E-05	4.72E-05	-2.09	**0.045**	-0.00015	0.000649
X_1*ExRates	6.50E-08	2.17E-08	3.000	**0.015**	1.59E-08	1.14E-07
X_2*INT	-4.6E-05	4.06E-05	-1.140	0.285	-0.00014	4.57E-05
X_2*INF	-0.0001	8.17E-05	-1.280	0.233	-0.00029	8.04E-05
X_2* ExRates	8.94E-08	4.70E-09	19.01	**0.0000**	-2.2308	2.16E-08
X_3*INT	0.000102	0.000134	0.760	0.464	-0.0002	0.000405
X_3*INF	0.000169	0.000199	0.850	0.416	-0.00028	0.000618
X_3* ExRates	1.03E-07	5.92E-08	1.740	0.116	-3.1008	2.37E-07
X_4*INT	-0.0087	0.004299	-2.020	0.074	-0.01843	0.001024
X_4*INF	-0.00403	0.004042	-1.000	0.344	-0.01318	0.005111
X_4* ExRates	1.28E-05	3.40E-06	3.780	**0.004**	5.16E-06	2.05E-05
_cons	627334.2	49084.18	12.780	0.000	516298	738370.3

Number of obs = 26
F(16, 9) = 288.41
Prob> F = 0.0000
R-squared = 0.9981
Adj R-squared = 0.9946

The findings show that interest's rate significantly moderated the relationship between Tax enforcement costs and revenue collection by Kenya Revenue Authority since the coefficient for X_1*INT was β=0.000297, p=0.026. The finding shows that the moderating effect of interest rates on relationship between Tax automation costs, Tax education costs and Stakeholders' engagement cost on tax revenue collected by KRA was insignificant. This study therefore, rejected the H_{05a}: Interest rates have no statistically significant moderating effect on the relationship between Tax enforcement costs and revenue collection by Kenya Revenue Authority. The study failed to reject the hypothesis for other independent variables and concluded that interest rates does not significant moderate the relationship between tax automation costs, tax education costs and stakeholders' engagement cost and tax revenue collected by KRA. The study finding supported those by Shivanda and Obwogi (2019) who concluded that interest rate and exchange rate are important macro-economic factors influencing tax revenue collection in Kenya.

The results show that inflation rates significantly moderated the relationship Tax enforcement costs and revenue collection by Kenya Revenue Authority. However, the moderating effect on relationship between tax automation costs, tax education costs and stakeholders' engagement cost and revenue collection by Kenya Revenue Authority was insignificant. Similarly, this study therefore, rejected the H_{05b}: inflation rates have no statistically significant moderating effect on the relationship between Tax enforcement costs and revenue collection by Kenya Revenue Authority. A study by Chepkonga (2016) also focused on the relationship between macro-economic factors and tax collection and revealed that tax collected varies linearly with the rate of inflation, FDI, rate of unemployment and level of disposable income. The study failed to reject the hypothesis for other independent variables and concluded that interest rates does not significant moderate the relationship between tax automation costs, tax education costs and stakeholders' engagement cost and tax revenue collected by KRA.

Finally, the results show that exchange rates significantly moderated the relationship between tax enforcement costs, tax automation costs, stakeholders' engagement and revenue collection by Kenya Revenue Authority. However, the moderating effect on the relationship between relationship tax education costs and revenue collection by Kenya Revenue Authority was insignificant. This study therefore, rejected the H_{05c}: Exchange rates have no statistically significant moderating effect on the relationship between tax enforcement costs, tax automation costs, stakeholders' engagement and revenue collection by Kenya Revenue Authority. The finding supported those by Gachanja (2012) who did a study using time series data on economic growth and taxes in Kenya from 1971 to 2010 and revealed a relationship which is positive between the growth of economy and taxes. All taxes show a correlation which is positive to exchange rates.

Table 4.18: Summary of test for Moderation Effect of Macroeconomic factors

	Before Moderation	After moderation	Change	Conclusion
R-squared	0.8126	0.9981	0.1855	Macroeconomic factors positively enhanced relationships between taxation policies administration costs and tax revenue collection by KRA

4.4.1 Diagnostic Tests After Moderation

This section presented diagnostic test of error term after test of moderation. The study conducted test for normality on the error term after fitting moderated multivariate regression models. One of assumption of conducting regression analysis is to ensure that errors term of the regression model conforms to normal distribution. Departure from normality means that the estimates obtained from the regression analysis cannot be reliable upon in predicting the relationship between variables under the study. In this study, Shapiro-Wilk test was adopted to test normality of the error terms of the regression model.

Table 4.19: Normality Test Results

	Kolmogorov-Smirnova			Shapiro-Wilk		
Tests of Normality	Statistic	df	Sig.	Statistic	Df	Sig.
Error term	0.131	26	0.199	0.941	26	0.096

a Lilliefors Significance Correction

The results presented in table 4.20 showed that the Shapiro-Wilk-Statistics had p-values greater than 0.05. Therefore, the null hypothesis, that data was not significantly different from normal distribution, was not rejected implying the error was normally distributed. The data therefore adhered to the regression assumption of normal distribution.

Table 4.20: Overall Summary of Test of Hypotheses

Hypothesis	Analysis Results	Conclusion
H_{01}: Tax policy enforcement costs has no significant effect on revenue collection by Kenya Revenue Authority	β=-0.367, p=0.009<0.05	Rejected H_{01}
H_{02}: Tax automation costs has no significant on revenue collection by Kenya Revenue Authority	β=0.491, p=0.0000<0.05	Rejected H_{02}
H_{03}: Taxpayer's education policy costs do not significantly affect revenue collection by Kenya Revenue Authority	β=0.057, p=0.678>0.05	Fail to Reject H_{03}
H_{04}: Stakeholders' engagement policy costs have no significant effect on revenue collection by Kenya Revenue Authority	β=-0.021, p=0.0750>0.05	Fail to Reject H_{03}
H_{05}: Macroeconomics factors have no statistically significant moderating effect on the relationship between taxation policy Implementation costs and revenue collection by Kenya Revenue Authority	Macroeconomic factors increased R-squared from 0.8126 to 0.9981	Rejected H_{05}

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the summary of the major findings, conclusion made by the study and finally the recommendation the study made arising from the study findings. The summary of the finding was provided in line with the specific objectives. The conclusion and recommendation were primarily based on the finding of this study.

5.2 Summary

5.2.1 Tax Enforcement Policy Costs and Revenue Collection

The first objective of the study was to test the effect of Tax Enforcement Costs on Tax Revenue Collection by KRA in Kenya. The descriptive results show that during the study period KRA increased their tax enforcement costs steadily. However, in recent years saw the trends of tax enforcement cost fluctuated. The expenditure on tax polices enforcement fluctuated during the study period. The correlation analysis results showed tax policy enforcement costs had a weak negative association with tax revenue. The results of regression analysis revealed that Tax Enforcement Costs negatively and significantly affected tax revenue collected by KRA in Kenya. The findings implied increasing tax policy enforcement costs would reduce the tax revenue collected by KRA. The finding further implied too much enforcement of policies by KRA had inverse relationship with tax revenue collected. Based on these findings, the study rejected H_{01}: Tax policy enforcement costs has no significant effect on revenue collection by Kenya Revenue Authority.

5.2.2 Tax Automation Policy Cost and Revenue Collection

The study further sought to test the effect of Tax Automation Costs on Tax Revenue Collection by KRA in Kenya. The results show that tax automation costs increased steadily over the study period. The study period coincided with the period when the KRA launched various systems such as i-tax to enhance revenue collection. The correlation analysis results also show that tax automation costs had very strong and positive association with tax revenue collected by KRA. The finding implied that the more taxman spends on automation and implementation of automation policies that more the revenue is collected. The findings further implied that automation expenditure improved revenue collected. This finding implies that the cost incurred by KRA in tax automation policy was a predictor of revenue collection by Kenya Revenue Authority

The regression coefficient of Tax Automation Costs in the model was statistically significant meaning that tax automation costs positively and significantly affected tax revenue collected by KRA in Kenya. The findings implied increasing tax automation cost would increase the tax revenue collected. Amount spend on tax system automation significantly improved the amount of tax collected by KRA. Based on these findings, the study rejected H_{02}: Tax automation costs has no significant effect on revenue collection by Kenya Revenue Authority.

5.2.3 Taxpayers Education Policy Costs and Revenue Collection

The study also sought to test the effect of Tax Payer Education Costs on Tax Revenue Collection by KRA in Kenya. The descriptive results showed that tax payers' education cost on average increased during the study period. However, the amount spends on tax education oscillated from year to year which imply that in some years KRA was aggressive in educating tax payers while other years the implementation of the tax payers’ education policies was very low. This fluctuation in amount spends on tax payers’ education also reflected the fluctuation on tax revenue collected.

According to the results of the correlation analysis, KRA's revenue collection and tax education costs were strongly positively correlated.

The conclusion implied that the quantity of tax revenue collected increased significantly as a result of the adoption of tax education.

The coefficient for the expenses of the taxpayer's education policy, however, was positive and negligible, according to the results of multivariate regression analysis. The conclusions suggested that KRA's tax collection was positively and negligibly impacted by the costs of the taxpayer's education program.

The findings also indicate that rising taxpayer expenses for education policies would enhance tax income received by KRA. Based on these results, the study was unable to refute H03: Taxpayer-funded education policy costs have no appreciable impact on Kenya Revenue Authority revenue collection.

The findings of the regression analysis demonstrated that the expense of taxpayer-funded education policies was statistically significant. The research revealed that KRA's tax collection was positively and negligibly impacted by the costs of the taxpayer's education program. The findings also indicate that rising taxpayer expenses for education policies would enhance tax income received by KRA. Based on these results, the study was unable to refute H01: Taxpayer-funded education policy expenses have no appreciable impact on Kenya Revenue Authority revenue collection.

5.2.4 Stakeholders' Engagement Policy Costs and Revenue Collection

The study further analyzed the trend in stakeholder engagement costs and how they affect tax revenue collection. The trend analysis shown in the figure below indicates that over the study period expenditure of stakeholder engagement reduced significantly. The findings implied that stakeholder engagement forums were important before introduction of the automation. On the other hand, the correlation results show that stakeholder engagement costs had a weak negative association of tax revenue collected. The results implied that spending more on the stakeholder engagement reduced the tax revenue collected by KRA.

The multivariate regression analysis results revealed that the coefficient for Stakeholders' engagement policy costs was negative and insignificant. The findings show that Stakeholders' engagement policy costs had a negative and insignificant effect on tax revenue collected by KRA. Based on these findings, the study failed to reject H_{04}: Stakeholders' engagement policy costs have no significant effect on revenue collection by Kenya Revenue Authority.

5.2.5 Moderating Effect of Macroeconomic Factors

The study's ultimate goal was to ascertain the moderating impact of macroeconomic factors on the link between the expenses of tax policy implementation and Kenya Revenue Authority revenue collection. The findings indicate that the study period's macroeconomic climate was unstable, which may have had an impact on the tax revenue received by KRA.

The findings demonstrate that interest rates considerably reduced the link between Kenya Revenue Authority revenue collection costs and tax policy implementation costs. However, the moderating effect was negative, meaning that rising interest rates weakened the link between the expense of implementing a tax policy and Kenya Revenue Authority's ability to collect money. Therefore, our analysis rejected the hypothesis H05a: Interest rates do not statistically significantly moderate the relationship between the cost of implementing a tax policy and the amount of money collected by the Kenya Revenue Authority.

The findings also demonstrate that inflation rates considerably reduced the link between Kenya Revenue Authority revenue collection costs and tax policy implementation costs. However, the moderating effect was also counterproductive, meaning that higher inflation rates weakened the link between the expense of implementing taxation policy and Kenya Revenue Authority's ability to collect money. Therefore, our analysis rejected the hypothesis H05b: Inflation rates have no statistically significant moderating influence on the link between the cost of implementing a tax policy and the amount of money collected by the Kenya Revenue Authority.

Finally, the findings demonstrate that the link between the cost of tax policy implementation and Kenya Revenue Authority revenue collection was significantly attenuated by the exchange rate. However, the moderating effect was favorable, meaning that a higher exchange rate strengthened the link between the expenses of implementing a taxation policy and Kenya Revenue Authority's ability to collect money. As a result, this investigation rejected the H05c: Exchange rate has no statistically significant moderating impact on Kenya Revenue Authority's ability to collect revenue and implement tax policy.

Overall, the study found that macroeconomic factors, such as interest rates, inflation rates, and currency rates, might affect how taxation policies are implemented by the government to increase tax revenue collection. A macroeconomic climate that is favorable produces advantageous conditions for the implementation of tax policy, improving revenue collection as a result. Similar to how they influence public sector investment activities that generate taxes for the government.

5.3 Conclusion

Based on the findings of the study, the following recommendation were made; the study concluded that taxation policies Implementation costs are critically in policy implementation. Taxation policies becomes impactful when they are effectively implemented and this requires budget allocation and cost implementation. The study showed that costs incurred on tax enforcement policy implementation inversely affected the tax revenue collected by Kenya Revenue Authority. The study came to the conclusion that overzealous tax enforcement causes tax payers' emotions to rise, especially when enterprises are shut down due to tax noncompliance without alternative solutions being considered. The study also came to the conclusion that excessively severe tax enforcement deters investment activity, which has a negative effect on the amount of tax revenue received. The study came to the conclusion that tax enforcement policy is one of the policies that need cautious execution to minimize adverse effects on tax revenue collected.

The study further concluded that tax automation policy is the most critical policy that has huge impact on tax revenue collection. The emergence of technology and online based firms creates huge potential for revenue authorities to collect extra revenue from initially non existing sources. The study concluded that adoption of the latest automation and innovation is the surest way of increase tax revenue collected since it makes easy and convenient for tax payers to file their returns wherever they are provided they can access internet. On the relationship between tax payer education costs and stakeholder's engagement policies costs, this study concluded that Revenue Authority spending less and adoption cost effective ways of conducting tax payer education and engagement forum still have a high probability of raising more revenue.

Finally, the study concluded that macro-economic environment factors such inflation, interest and exchange rate affect economic activities in a country hence impacting on the amount of tax revenue collected. High interest and inflation increase the cost of doing business therefore reducing revenues the tax payable. Low exchange rate on the other hand reduces investment flows hence negatively affecting the revenue and taxes collected.

5.3.1 Contribution of the Study to Knowledge

This study addresses major gaps in the previous studies that have been conducted to analyze the effect of government taxation policies on tax revenue collection. Unlike previous studies, this study focused on expenditures and costs incurred on taxation policies implementation which was a point of departure from the previous studies. The study showed that only expenses incurred on tax automation had a positive impact on tax revenue collection. Costs incurred in tax policies enforcement negatively affect tax revenue collection. On the other hand, costs incurred on tax payer education and stakeholder engagement had insignificant effect on tax revenue collection. This study has therefore contributed on the body of knowledge by using costs incurred on policies implementation by proxy measures of government taxation policies on their effect on tax revenue collection. This study therefore opened a new dimension of research on taxation policies and revenue collection that can be explored by future researchers.

5.4 Recommendations

From these research findings, the study recommends that management of KRA should come up with more stringent policy on tax enforcement. Such policy should be based on the analysis of the performance of the existing Tax Enforcement rules, diagnosing their individual merits and demerits. The agency should enhance those enforcement rules that have worked and change the once which have not worked. This recommendation is based on the statistical evidence that established a significant relationship between the cost incurred by KRA in implementing tax enforcement and revenue collected.

Secondly, the study recommends that KRA should benchmark with countries which have state of the art tax automation and borrow strategies on how they can enhance tax automation to increase revenue collection in Kenya. Third, the study recommends that Kenya Revenue Authority should also evaluate the aspects of taxpayers' education and enhance those aspects that worked but develop new rules on emerging issues on taxpayers' education including educating the potential taxpayers who are still learning in the various education institutions. This will create early awareness on the importance of paying taxes which in turn will improve tax collection. This recommendation is based on the premise of the statistical evidence that established a significant relationship between the costs incurred in implementing taxpayers' education on revenue collection.

The study further recommends that KRA should enhance strategies on stakeholders' engagement as a way of enforcing taxation responsibilities among the stakeholders. It is high time the agency classified stakeholders based on their power and contribution towards revenue collection. All these recommendations should be implemented based on the prevailing macroeconomic environment including interest rate, inflation rate and GDP since the study established that these macroeconomic factors had moderating effect on the relationship between the costs incurred by KRA in the implementation of government taxation policies and revenue collection by Kenya Revenue Authority. The study recommends that policy makers should formulate policies that favorable for implementation tax policies and increased the budget allocation for the such policies implementation.

5.5 Suggestions for Further Research

A study should be carried out on the effect of budget variance of the budgets and the actual expenditures on the taxation policies on revenue collection by Kenya Revenue

Authority. This is because the current study did not analyze these variances to establish how they affect revenue collection. Variance analysis is an important financial tool that indicates how budget absorptions affect financial performance which can be applied in revenue collection by KRA.

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APPENDICES

Appendix I: Letter of Introduction

Antony Wahome Ndirangu

P.O Box 101510 - 00101,

Nairobi, Kenya.

Dear Respondent,

I am a student of Jomo Kenyatta University of Agriculture and Technology pursuing a Doctor of Philosophy degree. I am conducting academic research on the effects of government taxation policies on revenue collection in Kenya Revenue Authority. I'm writing to invite you to participate in the research by filling in the questionnaire. Your participation is entirely voluntary and the questionnaire is completely anonymous. I wish to assure you that the information you will provide will be treated with utmost confidentiality. I look forward to your support.

Thank you.

Yours Sincerely,

Antony Wahome Ndirangu.

Tel: 0724513513

Appendix II: Data Collection Sheet

	Tax Enforcement Costs	Tax Automation Costs	Tax Education Costs	Stakeholder Engagement Cost	Interest Rate	Inflation Rate	Exchange rate	Actual Tax Revenue
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2019								
2020								

Appendix III: NACOSTI Authorization letter

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone:+254-20-2213471,
2241349,3310571,2219420
Fax:+254-20-318245,318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

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

Ref: No. **NACOSTI/P/18/88896/22359**

Date: **14th May, 2018**

Antony Wahome Ndirangu
Jomo Kenyatta University of
Agriculture and Technology
P.O. Box 62000-00200
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Effect of Government policies on optimal revenue collection in Kenya Revenue Authority,"*** I am pleased to inform you that you have been authorized to undertake research in **all Counties** for the period ending **14th May, 2019.**

You are advised to report to **the Commissioner General, Kenya Revenue Authority, the County Commissioners and the County Directors of Education, all Counties** before embarking on the research project.

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

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

Copy to:

The Commissioner General
Kenya Revenue Authority.

Appendix IV: KRA Authorization letter

KENYA REVENUE AUTHORITY

ISO 9001:2008 CERTIFIED

Ref: KRA/1003/4

25th May, 2018

Antony Wahome Ndirangu
P.O BOX 101510 - 00101
NAIROBI
Phone N0.0724513513

Dear Antony,

RE: REQUEST TO CONDUCT RESEARCH PROJECT.

Reference is made to your letter dated 23rd May, 2018 on the above subject.

We are pleased to inform you that approval has been granted for you to collect and utilize data from KRA for your project entitled *"Effect of Government Policies on Optimal Revenue Collection."A Case study of Kenya Revenue Authority.*

Please note that the data availed should be for academic purposes only and should be treated with utmost confidentiality.

Kindly share your findings with the Authority on completion of the study.

Yours sincerely,

Hilda Mwangi
For: Deputy Commissioner – HR

Tulipe Ushuru, Tujitegemee!

ISO 9001:2008 CERTIFIED