

**MODERATING ROLE OF TAX TRAINING ON THE RELATIONSHIP
BETWEEN TAX MODERNIZATION PROGRAMS AND TAX COMPLIANCE
AMONG SMALL AND MEDIUM ENTERPRISES IN NAKURU COUNTY,
KENYA**

BY

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REQUIREMENTS FOR THE AWARD OF DEGREE OF
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DECLARATION

Declaration by Candidate

This research project is my original work and has not been presented for a degree in any other university. No part of this research project may be produced without the consent of the author and/or Moi University.

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DEDICATION

This research is dedicated posthumously to you my parents – Esther and Timothy Kinuu. For after having served God’s purpose in your generation, you rested on 21 August 2012 and 21 November 2012, respectively. Thank you for the good deposit of sound teaching that you entrusted to me.

To my son, Timothy K Maina someday you’ll be old enough to understand what is in here, and you’ll do more.

Finally, to all those who are dedicated in making Nakuru, County, and Kenya, a better place to live in and achieve what God intended for us. We can achieve anything as long as we believe that change comes from within.

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I also recognize the input of the SMEs in Nakuru County for helping in filling the questionnaire.

ABSTRACT

Compliance to tax laws and regulations among the SMEs vary among nations. Tax compliance for small and medium sized ventures is challenging which led to the institution of reforms in order to make it easier for the businesses to comply. Empirical data shows that Kenya has not been able to meet its revenue to optimal level. SMEs in particular have the potential of generating revenue for the government but this has been a challenge. This poses a significant problem to the government and the country's growth as a whole. This study aimed the moderating role assessing the effect of tax modernization programs on tax compliance moderated by tax training among SMEs in Nakuru County, Kenya. Specifically, the study sought to: determine the effect of tax invoice management system on tax compliance; evaluate the effect of electronic tax returns on tax compliance; find out the effect of electronic tax payment on tax compliance and find out the moderating effect of tax training on the relationship between tax modernization programme and tax compliance among small and medium enterprises in Nakuru County, Kenya. The study was anchored on the following theories: economic deterrence, transaction cost economics theory and theory of reasoned action. The study adopted an explanatory research design. The study was carried out between August 2022 and November 2022. The target population was licensed SMEs in Nakuru County. The target population of this study was from a population of 32,272 registered SMEs from which a sample of 395 selected using simple random sampling. Data was collected through administration of pretested questionnaires to the owners of SMEs. Data was analyzed using both descriptive and inferential statistics. The study adopted the hierarchical regression models to test for moderation. Based on the regression results, the study found that tax invoice management system ($\beta = 0.286; \rho < 0.05$), electronic tax returns ($\beta = 0.352; \rho < 0.05$) and electronic tax payment ($\beta = 0.145; \rho < 0.05$) had a significant positive effect on tax compliance of SMEs in Nakuru County, Kenya with an R^2 of 33.4 percent. The study further found that tax training moderated the relationship between tax invoice management system ($\beta = 0.068; \rho < 0.05$), electronic tax returns ($\beta = 0.053; \rho < 0.05$), electronic tax payment ($\beta = 0.455; \rho < 0.05$) tax compliance of small and medium enterprises in Nakuru County, Kenya with an R^2 of 43.2 percent. The study concluded that the tax modernization are key determinants of tax compliance of small and medium enterprises in Nakuru County, Kenya and that tax training moderates that relationship. This study recommends that SME owners get basic training on simple record keeping which will not only enhance their level with compliance with tax laws, but also improve on the operational efficiency of their SMEs. Future studies should conduct a comparative study across multiple counties or regions within Kenya could reveal regional variations in tax compliance and the effectiveness of tax training programs.

TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT.....	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES	x
LIST OF FIGURES	xi
ABBREVIATIONS AND ACRONYMS	xii
DEFINITION OF OPERATIONAL TERMS	xiii
CHAPTER ONE	1
INTRODUCTION.....	1
1.0 Overview.....	1
1.1 Background of the Study	1
1.1.1 Tax Compliance	2
1.1.2 Tax Modernization	4
1.2 Statement of the Problem.....	8
1.3 Objectives of the Study.....	10
1.3.1 General Objective of the Study	10
1.3.2 Specific Objectives of the Study	10
1.4 Research Hypothesis	11
1.5 Significance of the Study	12
1.6 Scope of the Study	13
CHAPTER TWO	14
LITERATURE REVIEW	14
2.0 Overview.....	14
2.1 Conceptual Context.....	14
2.1.1 Concept of Tax Modernization	14
2.1.2 Concept of Tax Training	16
2.2 Concept of Tax Compliance	17
2.3 Theoretical Framework.....	18
2.3.1 Economic Deterrence Theory.....	18
2.3.2 Theory of Technological Determinism	20

2.3.3 Transaction Cost Economics Theory	22
2.3.4 Theory of Reasoned Action.....	24
2.4 Empirical Literature	25
2.4.1 Tax Invoice Management System and Tax Compliance.....	26
2.4.2 Electronic Returns and Tax Compliance.....	28
2.4.3 Electronic Tax Payment and Tax Compliance.....	30
2.4.4 Moderating Role of Tax Training on Tax Compliance.....	33
2.5 Conceptual Framework.....	35
CHAPTER THREE	37
RESEARCH METHODOLOGY	37
3.1 Overview	37
3.2 Study Location.....	37
3.3 Research Design.....	37
3.4 Target Population.....	38
3.5 Sampling Design and Sampling Technique	38
3.5.1 Sample Size and Sampling Technique	39
3.5.2 Sampling Technique.....	40
3.6 Operationalization and Measurement of Variables.....	40
3.7 Data Collection Instruments	41
3.8 Data Collection Procedure	41
3.9 Pilot Testing	41
3.9.1 Reliability of instruments	42
3.9.2 Validity of instruments.....	42
3.10 Data Analysis and Presentation	42
3.10.1 Regression Model.....	43
3.10.2 Hierarchical Regression Model.....	44
3.10.3 Diagnostics tests.....	45
3.10.3.1 Normality Test.....	45
3.10.3.2 Multi-collinearity Test.....	45
3.10.3.3 Homoscedasticity.....	46
3.11 Ethical Considerations	46
CHAPTER FOUR.....	47
DATA ANALYSIS, PRESENTATION AND INTERPRETATION	47

4.0 Overview	47
4.1 Response Rate	47
4.2 Reliability Test Results	48
4.3 Validity Test Results	49
4.4 Assumptions of Regression.....	49
4.4.1 Normality Test.....	49
4.4.2 Multicollinearity Test.....	50
4.4.3 Homoscedasticity Test	51
4.5 Descriptive Statistics.....	51
4.5.1 Tax Invoice Management System and Tax Compliance.....	52
4.5.2 Electronic Tax Returns and Tax Compliance	53
4.5.3 Electronic Tax Payment and Tax Compliance	54
4.5.4 Tax Training.....	55
4.5.5 Tax Compliance	56
4.6 Correlation analysis	57
4.7 Regression analysis	58
4.8 Direct effect results	58
4.9 Moderating Effect of Tax training	62
4.10 Moderating effect of Tax training on the relationship between tax modernization and Tax compliance.	63
CHAPTER FIVE	69
SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS.69	
5.0 Overview	69
5.1 Summary of Findings.....	69
5.1.1 Tax Invoice Management System and Tax Compliance.....	69
5.1.2 Electronic Returns and Tax Compliance.....	70
5.1.3 Electronic payment and Tax Compliance	71
5.1.4 Tax Training, Tax Modernisation Program and Tax Compliance	71
5.2 Conclusion	72
5.3 Recommendation	73
5.3.1 Policy recommendation.....	73
5.3.2 Management recommendation	74
5.3.3 Theoretical recommendation.....	75

5.4 Limitation and Areas for Further Studies	76
REFERENCES	77
APPENDICES	82
Appendix I: Introduction Letter	82
Appendix II: Questionnaire	83
Appendix III: Introduction letter from University	86
Appendix IV: NACOSTI permit	87
Appendix V: SPSS Output	89

LIST OF TABLES

Table 3.1: Measurement of variables.....	39
Table 4.1: Reliability of research instrument.....	48
Table 4.2 Validity Test Results.....	49
Table 4.3 Multicollinearity Test	50
Table 4.4: White test heteroscedasticity results	51
Table 4.5 Tax Invoice Management System.....	52
Table 4.6 Electronic Tax Returns	53
Table 4.7 Electronic Tax Payment.....	54
Table 4.8 Tax Training	55
Table 4.9: Tax Compliance.....	56
Table 4.10 Correlations Matrix.....	57
Table 4.11: Direct effect results.....	59
Table 4.12: Moderating effect of tax training	63
Table 4.13: Moderating effect of the relationship between tax modernization and tax compliance.....	66
Table 4.14: Model Summary	67
Table 4.15: Hypothesis summary	68

LIST OF FIGURES

Figure 2.1 Conceptual Framework	36
Figure 4.1: Response Rate	47
Figure 4.2: Normality test Results	50
Figure 4.3: Modigraphs for the moderating effect of tax training on tax invoice management and tax compliance tax invoice management system	64
Figure 4.4: Modigraphs for the moderating effect of tax training on electronic tax returns and tax compliance tax invoice management system.....	65
Figure 4.5: Modigraphs for the moderating effect of tax training on electronic tax payment and tax compliance tax invoice management system	66

ABBREVIATIONS AND ACRONYMS

CBD	Nairobi Central Business District
CET	Common External Tariffs
EAC	East African Community
ECTS	Electronic Cargo Tracking System
GDP	Gross Domestic Product
ICMS	Integrated Customs Management System
ICPAK	Institute of Certified Public Accountants of Kenya
ICT	Information and Communication Technology
iTax	Income Tax
ITMS	Integrated Tax Management System
KRA	Kenya Revenue Authority
PIN	Personal Identification Number
SMEs	Small and Medium-Sized Enterprises
SPSS	Statistical Software for Social Sciences
TOT	Turnover Tax
TRA	Tanzania Revenue Authority
URA	Uganda Revenue Authority
VAT	Value Added Tax
ZIMRA	Zimbabwe Revenue Authority

DEFINITION OF OPERATIONAL TERMS

- Electronic tax Payment** An online platform whereby the taxpayer is able to access through internet all the services offered by a financial authority such as the registration for a personal identification number (Wahab 2012).
- Electronic Tax Registers** According to a gazette, notice no. 47 issued in October 22, 2004, electronic tax register or printer is defined as any device approved by the government to record and issue fiscal data of goods and services (KRA 2004).
- Electronic tax returns** Is a general term for electronic filing or electronic lodgement or electronic declaration of tax returns through submission of tax data to a taxing authority in a computer file format through an internet connection (Ibrahim, 2012).
- iTax** This is an integrated web based and automated application that integrates KRA's domestic tax administration processes to offer secure electronic taxpayer registration, electronic filing, electronic payment and back office functionalities to the revenue body (KRA, 2016).
- Modernization of Tax** Refers to the process of updating and improving a country's tax system to make it more efficient, fair, and responsive to the changing economic and technological landscape

Tax Compliance

Tax compliance is the willingness of taxpayers to undertake the payment of their taxes (Kirchler, 2009).

Tax training

Refers to the process of educating individuals, organizations, or professionals about various aspects of taxation. It aims to enhance their knowledge and understanding of tax laws, regulations, compliance requirements, and tax planning strategies

CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter entails the background of the study, problem statement, research questions, objectives, hypotheses, significance and scope of the study.

1.1 Background of the Study

Tax compliance refers to the willingness of individuals and business entities to willingly pay without being forced to do by the authority (Kanyinga, 2016). Tax compliance refers to the willingness and the ability of the tax payer to consent to all the guidelines and mandates of the tax authorities. According to Manhire (2015), willingly compliance alludes to the suspicion that taxpayers will agree to tax laws and obligations and all the more critically, precisely report their pay and findings sincerely to the tax authorities. Jones (2009) defines tax compliance as willingly filling and announcing of required tax data, the right self-assessment of taxes owed, and the auspicious instalment of those taxes without authorization activity.

This highlights three key tax compliance components that is recording, detailing, and instalment compliance. Recording compliance involves the submission of the right structures by the taxpayer to the tax authorities (Wasao, 2014). Failures to cultivate the three components make the tax payer to be regarded as rebellious.

Tax compliance is for the most part accomplished when the largest proportion of the tax payers' document their tax returns intentionally and in line with the tax without the intervention of the tax specialist through authorization (Mwangi, 2014). A high level of intentional compliance spares the tax experts from mind-boggling expense of income

accumulation, ensures an enduring progression of income for advancement and helps the acknowledgment of different tax approaches (Fuest & Riedel, 2010).

1.1.1 Tax Compliance

Compliance rates among small and medium-sized enterprises (SMEs) with tax rules and regulations vary greatly among countries. In Europe, for example, it is difficult for small and medium-sized enterprises (SMEs) to comply with tax regulations, which is one of the reasons why changes have been implemented to make it simpler for businesses to do so (Cicchello, Battaglia, and Monferrà, 2019). When the tax rules were regulated, the regulations were constructed in such a way that they could be applied to both large and small businesses. This made it possible for the regulations to be applied to medium and small businesses. In this sense, the medium and small businesses (also known as SMEs) have been able to contribute significantly to the generation of revenue across the European countries. This is especially true when considering the fact that micro, small, and medium-sized businesses are the pillars upon which the economies of Europe are built. For example, the government of New Zealand has implemented a variety of initiatives to encourage the collection of tax revenue from businesses in order to maximize the amount of money that can be obtained from this industry. This is due to the fact that SMEs are the types of dormant businesses, however they provide a substantial contribution to the overall expansion of the country's economy (Yong & Freudenberg, 2020).

In Brazil, it has been observed that small and medium-sized businesses have a high level of compliance with their tax obligations. According to Newman et al. (2018), small and medium-sized enterprises (SMEs) comply with the requirements of the tax authorities out of fear of facing penalties. The decreased complexity of the tax system along with its overall improvement contributed to the high compliance rate. The

constitutional changes 42, which modified article 146 of the federal constitution, were adopted by the tax authorities in order to improve the regulatory and tax conditions. This was then followed by other rules in 2008 that were aimed to encourage entrepreneurial activity within the country. This was accomplished by simplifying the tax code for small enterprises that had a gross yearly sales total of less than \$29,776. According to Barreto (2013), this was primarily intended for the small and medium enterprises (SMEs) that are active in the commercial and service sectors, notably in the urban areas.

The level of tax compliance is also low among SMEs in Zimbabwe. These businesses are subjected to different types of taxes such as income taxes, and other different types of taxes. According to Nyamwanza et al. (2014), the small and medium sized enterprises do not sufficiently follow the tax laws and regulations and they avoid taxation through closure of businesses during enforcement by the tax authorities. This limits the revenue collection by the government from this sector which forms a considerable proportion of business entities in the country.

In Rwanda, there is low compliance level among the SMEs. This is mostly attributed to low tax education among the business owners. According to Alm et al. (2012), a large proportion of the SMEs owners lack information on tax obligations and tax guidelines and this inhibit their willingness to comply with the tax authorities. The low compliance was attributed to high noncompliance penalty rates, bad attitudes towards taxation ad lack of equity and fairness in the tax system. The negative attitudes among the SMEs owners is mainly attributed to the introduction of new compliance enforcing techniques such as tax amnesty and unreasonable, intrusive tax audits conducted on the businesses.

In Kenya, just like in Rwanda, a large number of the SMEs do not voluntarily comply with KRA tax laws. Most of these enterprises do not make good on regulatory expenditures and tax avoidance among them remains high (KRA, 2015). Most of these enterprises do not intentionally enrol to the tax system while the proportion that enlist often fail to maintain adequate records, log tax returns, and easily settle their tax liabilities. This has over time posed a huge hindrance to the government in collecting revenue as this sector forms a significant proportion of business entities in the country.

Data on tax compliance of SMEs in Kenya shows that despite the tax modernization, there are concerns that the challenges that confront the Ministry of Finance and Kenya Revenue Authority today are not much different from the challenges that faced these revenue authorities before the reforms. There are also concerns that tax competitiveness in Kenya is low and the country remains among the most tax unfriendly countries in the world (Moyi *et al.* 2006). The study sought to get facts on the impact of these tax modernization programs on tax compliance among the SMEs in Nakuru County.

1.1.2 Tax Modernization

Globally, the tax environment is changing rapidly. The advancement of ICT is changing the operation of tax revenue systems (Muita, 2011). Governments through tax authorities across the world are adopting ICT to improve on service delivery, enhance convenience among citizenry and increase accessibility to government information is on the rise (Azmi and Kamarulzaman, 2010). Several countries have had different experiences in regards to the ICT services like electronic filing of tax returns. Applications to manage taxes electronically emanated in the United States of America (USA), before spreading to other developed and developing countries (Internal Revenue Service (IRS), 2007).

According to Aizenman, Jinjarak, Kim and Park (2015), for the last two decades' major tax reforms have been witnessed throughout the world to enhance tax administration and compliance. Savic and Martic (2015) posit that these reforms have majorly been driven through combined efforts by International Finance Corporation (IFC), the European Commission, Price Water Coopers (PWC), World Bank, International Monetary Fund (IMF), and the Centre for Tax Policy and Administration (CTPA) spearheaded by Organization for Economic Cooperation and Development (OECD). Since the year 2000, the global restructurings on tax administration and compliance have further seen remarkable improvements in tax collection in the European Union (EU) countries as well as greater parts of Asia and Latin America (OECD, 2011).

Automated and effective tax collections systems have led to improved tax bases for countries which have taken proactive measures in their tax regimes. For instance, according to Wasilewski (2000), a comparison between Japan's and Brazil's tax collection systems places Japan in its own league due to its high levels of automation. Streamlining of tax collection in Japan therefore explains its vibrant economic growth as compared to Brazil.

The Yemen government instituted tax reforms between 2000 and 2010 whereby various tax reforms including VAT taxes and regulations were instituted. This increased compliance not only by large business entities but also by small and medium enterprises. Since 2010, the level tax compliance among the SMEs has been on an increasing trend up to date, what has enabled the government to collect considerable amount of revenue from these entities which form a significant proportion of business ventures the country.

In Africa, VAT Tax Compliance among SMEs is relatively lower than in the developed economies. In Nigeria for instance, Ameyaw et al, (2016) noted that a large proportion of SMEs collapse within the first 5 years of operations as a result of tax related issues. The cited taxation issues include high tax rates, multiple taxation and high penalties for noncompliance. Also, poor tax education among the business owners and managers was a key contributing factor to high noncompliance among the business. Tax-related matters include multiple taxation, high tax rates and penalties. Also, noncompliance was compounded by lack of tax education among the SMEs owners.

Zimbabwe Revenue Authority (ZIMRA) introduced the Tax Management System (TMS) in the first quarter of 2016 to minimise cases of tax evasion by SMEs. The system was developed to send invoices to ZIMRA system from the taxpayers when they made sales to their clients. Since its implementation, the second quarter saw an increase of 10% from the first quarter. In addition, the June 2016 gross revenue collected surpassed the monthly target by 3.20%. In 2017, the first half year (H1:2017) financial report on revenue collection outperformed the H1:2016 by 9.74%. This performance was attributed to automation (introduction of TMS in 2016), audits and anti-corruption initiatives by a revenue report by ZIMRA (2017).

In South Africa, the services were introduced in 2003 by the South African Revenue Services (SARS) with significant developments in 2006. In South Africa, there are three ways of tax returns including the manual returns, electronic filling (e filing) of tax returns and electronic based form filing of tax returns (Ferreira, 2008). The major challenges with the e-filing of the tax returns in South Africa included software requirements of the SARS program that utilized adobe acrobat 8 software. This software required at least a Pentium 11 computer to run which was not widely available in South Africa at the time of e filing introduction. The issue of comprehensive online

help menus was a challenge as well as the navigation of the e-filing site (Lai & Choong, 2010).

Due to poor revenue productivity in Uganda, Uganda Revenue Authority (URA) introduced the automated customs valuation database and the Single Customs Territory (SCT) in 2014. Although the system was highly embraced by the Uganda government treasury, some of the revenue officials were reluctant to use it as it closed their avenues for corrupted monies. In the financial year 2014/2015 (July 2014-June 2015), the URA made a world land mark of 101.45% revenue collection posting a revenue growth of 20.98%. The URA financial report, (2015) attributed the performance to the automated customs valuation database, the SCT, macroeconomic environment, The Taxpayer Register Expansion Program (TREP) and the tax awareness programs. It was clear that the usage of information technology highly influenced the revenue productivity in Uganda.

To help improve tax compliance among different taxpayers, Kenya introduced the Tax Modernization Programme in 1986 with the hope that this would, among other things, enhance revenue collection, improve tax administration and reduce compliance and collection costs (Moyi & Rongee 2006). As technological advances in tax collection and administration continues to rapidly transform on the association involved between the tax authorities and taxpayers around the globe (Ernest & Young, 2016). Further, governments have also embarked on voluntary tax compliance through taxpayer training (Azmi & Kamarulzaman, 2010). For example, the Kenya Revenue Authority (KRA) through Kenya school of revenue administration (KeSRA) on its seventh corporate plan running from 2013/2014 to 2020/2021 financial year have embarked on training of over 100,000 tax payers.

Procurement of Information, ICT machinery, internet interconnectivity, and desktop computers dominate the activities related to technology in tax collection. There is also teaching of computer lessons and ensuring that there are the right staffs to manage the operations (Bird, 2013). The introduction of i-tax by Kenya Revenue Authority (KRA) to replace the manual tax filing system has been praised as a game-changer with regard to effectiveness and efficiency. The system is web-enabled and secure application that provides a fully integrated and automated solution for administration of domestic taxes (KRA, 2016).

1.2 Statement of the Problem

Compliance to tax laws and regulations among the SMEs vary among nations. In Europe for instance, tax compliance for small and medium sized ventures is challenging which led to the institution of reforms in order to make it easier for the businesses to comply (Cicchello, Battaglia & Monferrà, 2019). In Rwanda, there is low compliance level among the SMEs which is mostly attributed to low tax education among the business owners. According to Alm et al. (2012), a large proportion of the SMEs owners lack information on tax obligations and tax guidelines and this inhibit their willingness to comply with the tax authorities. In Kenya, a large number of the SMEs do not voluntarily comply with KRA tax laws. Most of these enterprises do not make good on regulatory expenditures and tax avoidance among them remains high (KRA, 2015). Most of these enterprises do not intentionally enrol to the tax system while the proportion that enlist often fail to maintain adequate records, log tax returns, and easily settle their tax liabilities

To improve on tax compliance among the taxpayers, Kenya introduced the tax reforms in 1986 with the hope that this would among other things enhance revenue collection

(Moyi and Ronge, 2006). In 2004, the KRA instituted the Revenue Administration Reform and Modernization Program (RARMP) to further the use of technology and create a modern tax collection for Kenya (KRA, 2015). This involved system automations and training of employees on the new technology in revenue collection. However, though much has been done to improve tax revenue performance by KRA, tax revenue performance statistics shows otherwise. Nyaegah (2018) opines that tax compliance by taxpayers is low while the annual revenue targets have never been met. For instance, the 2018/2019 annual revenue performance report by KRA shows that it managed to collect only KES.409.5 billion, from VAT against a target of KES. 464.2 billion (KRA 2019). In 2019/2020 financial year, the revenue performance reports show that despite the increase in the overall tax revenue performance from KES. 1.580 trillion in 2018/2019 financial year to KES. 1.607 Trillion in 2019/2020 financial year, VAT recorded a reduction of 7.0%, from KES. 464.2 billion, in 2018/2019 to KES 380.8 billion in 2019/2020 (KRA 2020). This means that KRA missed its' VAT target by KES 54 billion. Clearly, this data shows that VAT collection, though able to help the KRA to bridge the revenue gap, is faced with many challenges leading to low collection. Helhel and Ahmed, (2014) cite tax evasion as the biggest challenge faced by tax administrators in tax administration.

Empirical studies have been done to the topic of determinants of tax compliance, which is directly related to tax revenue performance. Tanzi and Zee, (2000) opines that the level of compliance with existing tax laws depends on several factors which can be categorized into economic factors, social factors and demographic factors while Helhel & Ahmed, (2014) established that attitudes, high tax rates and partial tax systems were the two major factors related to low tax compliance rate. In Malaysia, Normala and

Obid (2013), confirmed that there is a significant relationship between the level of tax education and the level of VAT compliance.

Locally, Jemaiyo and Mutai (2016) found that tax compliance cost, tax knowledge, tax penalties and tax audit had significant effect on level of tax compliance in real estate sector in Eldoret, Kenya. The current study sought to bridge the knowledge gap, by establishing the effect of VAT reforms on perceived tax revenue performance in Kenya, a case study of Kenya Revenue Authority.

The question that arises is what is causing low compliance and revenue collection in Kenya? Were the reforms efficient enough to help KRA fulfil its mandate of revenue collection? The current study sought to answer those questions by establishing the effect of tax modernization programme on tax compliance among small and medium enterprises in Nakuru County, Kenya.

1.3 Objectives of the Study

1.3.1 General Objective of the Study

The general objective of the study was to establish the moderating role of tax training on the relationship between tax modernization programs and tax compliance among small and medium enterprises in Nakuru County, Kenya.

1.3.2 Specific Objectives of the Study

1. To determine the effect of tax invoice management system on tax compliance among small and medium enterprises in Nakuru County, Kenya.
2. To evaluate the effect of electronic tax returns on tax compliance among small and medium enterprises in Nakuru County, Kenya.
3. To find out the effect of electronic tax payment on tax compliance among small and medium enterprises in Nakuru County, Kenya.

4. To find out the moderating effect of tax training on the relationship between
 - a) Tax invoice management system and tax compliance among small and medium enterprises in Nakuru County, Kenya;
 - b) Electronic tax returns and tax compliance among small and medium enterprises in Nakuru County, Kenya; and
 - c) Electronic tax payment and tax compliance among small and medium enterprises in Nakuru County, Kenya.

1.4 Research Hypothesis

This study sought to establish the moderating effects of tax training on the relationship between tax modernization and tax compliance among the Small and Medium Enterprises in Nakuru County Kenya.

H₀₁ Tax invoice management system has no significant effect of tax compliance among the small and medium enterprises in Nakuru County.

H₀₂ Electronic tax payment has no significant effect on tax compliance among the small and medium enterprises in Nakuru County.

H₀₃ Electronic tax returns have no significant effect on tax compliance among the small and medium enterprises in Nakuru County.

H₀₄ Tax training does not moderate the relationship between: -

- a) Tax invoice management system and tax compliance among small and medium enterprises in Nakuru County, Kenya; and
- b) Electronic tax returns and tax compliance among small and medium enterprises in Nakuru County, Kenya;
- c) Electronic tax payment and tax compliance among small and medium enterprises in Nakuru County, Kenya.

1.5 Significance of the Study

The study findings may be beneficial in a number of ways. To begin with, the findings may offer key insights to the KRA officials on the level of tax compliance among SMEs in Nakuru. This may enable them to gauge the efficiency with which they implement the different tax reforms in order to foster compliance among the SMEs in Nakuru County.

SMEs are the backbone of many economies, contributing substantially to economic growth and job creation. As they transition to digital tax management systems, understanding how tax training can influence their compliance behavior is crucial. This research can provide SMEs with valuable insights into optimizing the use of technology while ensuring they fulfil their tax obligations accurately and efficiently. By promoting compliance among SMEs, the study can lead to increased revenue generation for governments, which can be channelled back into public services, infrastructure development, and social programs, thus benefiting the broader society.

This research has broader implications for tax policy and administration, not limited to the context of SMEs in a specific region. It sheds light on the interplay between technological advancements and educational initiatives like tax training, emphasizing the importance of a balanced approach in modernizing tax systems. Governments worldwide are increasingly digitizing tax processes, and understanding how training can facilitate this transition can guide more effective policy formulation. By recognizing the moderating role of training, policymakers can tailor strategies to make technology adoption more seamless and ensure that the benefits of digital tax management, such as improved accuracy and reduced administrative burdens, are fully realized. In summary, this study's significance extends beyond SMEs in its potential to

inform tax policy and promote compliance, benefiting economies and societies on a broader scale

The study may also be beneficial to scholars and researchers. This is because, may contribute to knowledge and literature on the role of tax reforms on compliance. The study will be a key reference sources for other scholars and researchers who would like to conduct related studies.

1.6 Scope of the Study

The purpose of the study was to determine the tax modernization programme on tax compliance among small and medium enterprises in Nakuru County, Kenya. The study focused on tax invoice management system, electronic tax returns and electronic tax payment with tax training as moderating variable. Due to the vastness of Nakuru County, the study limited itself only to the licensed Small and Medium Enterprises (SMEs) operating in Nakuru Central Business District (CBD). The study was carried out between October 2022 and December 2022.

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

The first section of this chapter introduces the concepts under tax modernization, tax training and tax compliance. The second section presents the different theoretical foundations that elucidate the various determinants of tax compliance. The third section captures the empirical literatures that have been done. The chapter ends with a critique of the reviewed literature and the presentation of a conceptual framework.

2.1 Conceptual Context

2.1.1 Concept of Tax Modernization

The reformation or modernization of a tax administration system aims to improve the effort or performance of tax collecting authorities (Kurniawan, 2018). Such reformation maybe conducted individually or by group to achieve more efficient, economical, and rapid outcomes. Modernizing the tax administration system has become a necessity even long before taxation has become a modern concept in our lives. The modernization of the tax administration system must be able to integrate the principles of justice, certainty, comfort, and economics into the tax administration process. Philosophically, the four canons of taxation serve as the main foundations in modernizing the tax administration system of most tax jurisdictions.

The modernization of the tax administration system must be designed and implemented thoroughly and comprehensively. The government has implemented several changes in the following areas: organizational structure; business process and information and communication technology; human resource management and implementation of good governance. Information and Communication Technology play a key role improving

the compliance with tax laws as it has the impact of reducing the complexity related with tax compliance.

Technology is the adoption of digital networks to modify a business model as it relates to tax administration in all ramifications in line with the global trend, intending to create value from the use of advanced technologies, by exploiting digital networks dynamics for the benefit of the improved tax generation and ease of tax payments by taxpayers. According to Pande and Patni (2017), in an Ernst & Young report states that the use of technology has been introduced in the tax process in the following stages; E- Filing which is the use of standardized electronic form or filing tax returns required or optional; other income data and filed electronically and matched annually. E-Accounting includes submitting accounting or other source data to support filings in defined electronic format to a defined timetable; frequent additions and changes at this level. E-Match which includes submitting additional accounting and source data; government accesses additional data begins to match data across tax types and potentially across taxpayers and jurisdictions in real-time. E- Audit which includes data analyzed by government entities and cross-checked to filling in real-time to map the geographic economic ecosystem taxpayers receiving audit assessment with limited time to respond and E-assess where the government entitles using submitted data to assess tax without the need for tax form; taxpayers allowed a limited time to audit government calculated tax.

In the ICT Strategy KRA (2018-2021), over the years, KRA's automation level has grown and today the Authority significantly relies on Information and Communication Technologies to collect and administer natural taxes. This has been facilitated by Top Management support and enabling legal and regulatory frameworks in the country. Some of the IT innovations include the integrated tax management system, Integrated

Customs Management system, and the Regional Electronic Cargo Tracking System. The report states that automation transformation of the KRA procedures has also led to notable success in filing returns, remitting payments, applying for a tax refund, lodging tax objections, applying for tax waivers, and requesting tax compliance certificates among others. The efficiency of the I-Tax provides real-time updates of tax accounts, which have eased reconciliation of statements with the tax authority; this has built trust among taxpayers through the enhancement of transparency and promotion of accountability.

The use of technology has gained significant strides in terms of increasing tax compliance levels. With internet connections well growing in Kenya, Taxpayers are now able to use technology to access and pay VAT taxes at their convenience without physically visiting KRA premises.

2.1.2 Concept of Tax Training

In order to pay appropriate taxes SMEs must be knowledgeable about the different compliance measures and requirements. Taxation knowledge is a specific part of the general human potential of entrepreneurs, which increases the chances of business success (Haber & Reichel, 2007). The extent of non-compliance arising from knowledge deficits because of the complexity of reporting and returning requirements might be substantial. VAT non-compliance mostly results from errors that do not stem from evasion intent with only 3 per cent attributed to tax evasion (Naibei & Siringi, 2011).

Though SMEs often deal with (perceived) knowledge deficiencies by seeking the help of tax practitioners, they tend to handle part of the taxpaying process themselves (Coolidge et al., 2009) and will, at least, have to keep the necessary records. Acquiring

taxation knowledge is costly in terms of time (to become informed, to keep the records, to fill out the forms) and money (tax literature, tax practitioners).

Tax-specific knowledge is necessary in order to enable SMEs to comply with the tax law, as well as to increase their willingness to do so. Most taxes paid by employed people are withheld from the outset or included in gross prices since most of them are passive recipients of information.

2.2 Concept of Tax Compliance

Tax compliance is a multifaceted concept that encompasses the adherence of individuals and businesses to tax laws, regulations, and reporting requirements established by the government (Randlane, 2016). At its core, tax compliance signifies the act of accurately and honestly fulfilling one's tax obligations, which includes the timely filing of tax returns, the complete and accurate disclosure of income, deductions, and other financial information, and the payment of taxes owed to the government in accordance with the tax code. Tax compliance also extends to complying with various tax deadlines, such as filing deadlines and payment due dates, as well as adhering to tax laws and regulations that apply to specific transactions, industries, or income sources.

Tax compliance is not solely a matter of legal obligation; it also reflects the ethical and moral responsibility of individuals and businesses to contribute to the financial resources necessary for government operations and public services (James and Alley, 2002). Governments rely on tax revenue to fund essential services, such as healthcare, education, infrastructure development, and social welfare programs. Therefore, tax compliance plays a pivotal role in maintaining the economic stability of a nation and ensuring the equitable distribution of public resources. Non-compliance, on the other hand, through tax evasion or avoidance, can undermine the revenue base, create unfair

advantages for non-compliant entities, and ultimately erode the government's ability to provide essential services, making tax compliance a critical aspect of a well-functioning society (Yong, Freudenberg and Sawyer, 2019).

2.3 Theoretical Framework

Taxation is based on theories that give laws and regulations for charging tax on taxpayers who should pay tax and how such taxes should be paid. This study will be anchored on several theories, which explain the question of the reasons to comply in tax laws, and how who, whom, should pay that tax and when it should be paid.

2.3.1 Economic Deterrence Theory

Allingham and Sandmo (1972) developed the Allingham and Sandmo Theory. According to this theory, the government uses sanction arrangements and audits to deter businesses from tax evasion. The theory argues that businesses and individuals decide to violate tax laws and regulations when they perceive that the cost of tax paying is too low and when they feel that chances of detection by tax authorities are low and that they are unlikely to be detected. Individuals and firms decide to evade tax if they perceive that the cost of compliance is higher than the perceived consequences of evasion. The theory further holds that the chances of tax evasion tend to be higher when the tax laws and regulations are cumbersome and stringent and hence individuals and businesses are discouraged to comply. Chances of evasion are higher when the tax payers feel that the tax rates are high and unfair.

Allingham and Sandmo (1972) spearheaded tax evasion, where a judicious and an ethical taxpayer expands anticipated utility, which exclusively depends upon pay. Whenever caught, the operator must pay punishments, forced on the measure of dodged salary. A key relative static result is that when the tax rate increases, contending salary

and substitution effects may lead to pretty tax compliance. Evasion is empowered by the substitution effect since the minor advantage of swindling increases with tax rate. Irrespective of the expectations, the pay effect will generally stifle evasion because increased tax rates make the tax payers with diminishing total hazard avoidance feel more awful off, and reducing danger taking. This leads to equivocal net effects.

The theory suffers some criticism from scholars. For instance, the literature by Skov (2013) has considered how the predictions of the AS model are affected where the evaded income can be identified but the associated tax and penalties cannot be fully enforced. Related papers with somewhat different objectives include Slemrod et al. (1995), and Hallsworth *et al.* (2014). Assessing the impact of tax systems on SMEs is not simply a matter of looking at tax rates. The tax systems play an important role in encouraging growth, investment and innovation and facilitating international trade and mobility. For SMEs key considerations are to minimize administrative burden while ensuring compliance, including considering the drivers and impact of operating in the informal economy.

The Allingham and Sandmo Theory is applicable and relevant in this study on the role of tax reforms on tax compliance. It is worth noting that the SMEs are prone to tax evasion particularly when it is difficult for them to comply with the tax laws and regulations. It is only through effective tax reforms that the tax authorities can compel the enterprises to comply with the tax laws and regulations. The reforms should be accompanied by tax education among the SMEs owners in order to make them aware of their tax obligations and the benefits of compliance.

With the introduction of tax invoice management system, most KRA is able to track the transactions done by the SMEs, thus making tax evasion by these SMEs impossible.

The theory therefore guides the first objective, to determine the effect of tax invoice management system on tax compliance among small and medium enterprises in Nakuru County, Kenya.

2.3.2 Theory of Technological Determinism

The Technological determinism theory is a reductionist theory that presumes that a society's technology drives the development of its social structure and cultural values. Thorstein Veblen (1857–1929), an American sociologist and economist, initially developed this theory. There arose a radical technological determinist in the United States in the 20th century called Clarence Ayres. He was a follower of Thorstein Veblen and John Dewey.

Technological determinism was majorly elaborated by Karl Max grounding his theoretical framework in the perspective that changes in technology, and specifically productive technology, are the primary influence on human social relations and organizational structure, and that social relations and cultural practices ultimately revolve around the technological and economic base of a given society (Smith & Marx, Merrit Roe & Leo, 1994). Marx argued that fast- changing technologies alter human lives in all aspects of life. There have been loopholes in accepting the Marx's ideology on determinism.

This led to several advancements by other scholars such Thorstein Veblen (1857–1929), an American social scientist who tried to coin the meaning further and Charles A. Beard who provided this apt determinist image, "Technology marches in seven-league boots from one ruthless, revolutionary conquest to another, tearing down old factories and industries, flinging up new processes with terrifying rapidity." (Beard & Charles, 1927). Technology is the basis for all human activities as seen by many determinists. Technological determinism seeks to show technical developments, media,

or technology as a whole, as the key mover in history and social change, (Kunz & William, 2006).

This technological determinism theory can be summarized as 'the belief in and adoption of technology as a key governing force in society towards achieving a positive transformation.' Therefore, it can easily be said "technology determines history and forms a basis for the future as it functions in the present." According to Smith (2011), a community's social progress is driven by technological innovation, which in turn follows an "inevitable" course.' This social progress is centralized around the idea that social problems can be solved by technological advancement, and this is the way that society moves forward. Technology growth and advancement is uncontrollable – keeps on advancing day in day out. This way, no one can stop social progress hence economic growth.

According to Croteau & Hoynes (2003), technological determinism is an approach that identifies technology, or technological advances, as the central causal element in processes of social change. As technology is stabilized, its design tends to dictate users' behaviours, consequently diminishing human agency. In the case of Kenya Revenue Authority, the adoption iTax has diminished the physical contact between the officers and the taxpayers. The customers can manage their accounts, register themselves, do e-filing and payment online and in case of a challenge, they can contact the contact centre either through the use of emails or through voice calls. However, the advancement of the technology diminishes the social values in the society. This theory will guide the second objective, to evaluate the effect of electronic tax returns on tax compliance among small and medium enterprises in Nakuru County, Kenya.

2.3.3 Transaction Cost Economics Theory

The institutional economist Commons (1931) introduced the idea that transactions form the basis of an economic thinking. These individual actions are really trans-actions instead of either individual behaviour or the "exchange" of commodities. In economics and related disciplines, a transaction cost is a cost in making any economic trade when participating in a market. The concept of the transaction cost was popularised by Oliver Williamson (Pessali, 2006). According to Pessali, (2006), the proponent of the theory, institutions that facilitate low transaction costs, boost economic growth. They further stated that there are four factors that comprise transaction costs— "measurement," "enforcement," "ideological attitudes and perceptions," and "the size of the market." Measurement refers to the calculation of the value of all aspects of the good or service involved in the transaction. Enforcement can be defined as the need for an unbiased third party to ensure that neither party involved in the transaction reneges on their part of the deal. These first two factors appear in the concept of ideological attitudes and perceptions the third aspect of transaction costs. Ideological attitudes and perceptions encapsulate each individual's set of values, which influences their interpretation of the world. The final aspect of transaction costs, according to North, is market size, which affects the partiality or impartiality of transactions.

According to Ricardo and Eros (2017), transaction costs can be divided into three broad categories: Search and information costs and Policing and enforcement costs where Search and information costs are costs such as in determining that the required good is available on the market, which has the lowest price, etc. while policing and enforcement costs are the costs of making sure the other party sticks to the terms of the contract, and taking appropriate action (often through the legal system) if this turns out not to be the

case. Other are bargaining and decision costs, which are the costs, required to come to an acceptable agreement with the other party to the transaction, drawing up an appropriate contract and so on.

Slemrod and Yitzhaki (1996) identified compliance costs as one of the three components of the social costs of taxation. Together, the compliance costs and administrative costs are defined as the operating cost of taxation (Evans, 2001). According to the study by Economic Commission for Africa (2001), the policy and regulatory environment in many African countries was still wanting in many respects, the policies impose high costs of doing business (Beyene, 2002).

As well, complicated tax systems make it difficult and expensive for some taxpayers to comply with policies and procedures owing to the costs associated with record keeping and the need for specialized information to comply with complex tax laws (Bird & Wallace, 2003). This has placed more pressure upon small enterprises in developing countries (Uganda inclusive) to operate outside official reporting system (Kayaga, 2007), since the tax rules increase the labour costs which in turn provide a great incentive to avoid costs by working in the shadow economy of non-reporting (Schneider & De soto, 1989).

Borrowing from economics, high compliance costs results in a deadweight resource costs on society, distorted production decisions, reduced investment, higher deficits, reduced tax equity and adverse price movements; consequently, resentment of high compliance cost may lead to increased noncompliance and lower tax yields (Chattopadhyay and Das-Gupta, 2002). They further suggest that large compliance costs could be responsible for the high tax gap in developed countries given the fact that such economies relatively have efficient tax administration. Additionally,

Niemiowski, Baldon & Wearing, (2003) proposed that some taxpayers put off tax reporting and completing returns because they could not afford to use the tax agents even when they wanted to do so. Tax compliance costs studies has shown that tax compliance costs are huge and regressive but the relationship between the tax compliance costs and tax compliances is almost ignored.

Transaction cost in tax compliance can be as results of many factors including knowledge search on tax laws, tax training, computation of taxes, making tax returns and payment of taxes. For KRA to help the taxpayers reduce the cost associated with tax compliance, KRA has come up with measures aimed at reducing the costs associated with tax payment by introducing KRA M-app and other methods of payment like use of pay bill number and mobile banking, which enables them to pay the taxes from comfort of their offices or home. This theory will therefore guide third objective, to find out the effect of electronic tax payment on tax compliance among small and medium enterprises in Nakuru County, Kenya.

2.3.4 Theory of Reasoned Action

This theory was introduced in 1980 by Ajzen and Fischbein. According to this theory, taxpayers' behaviour is determined by their intentions, which are a function of their attitudes and perception of subjective norms. The attitude towards the subjective norms is described as a positive or negative judgment regarding the behavior and the perception of subjective norms as this social pressure influences a person to perform the behavior.

Lewis (1982) and Cialdini (1989) in their research study examined the attitudes and perceptions of taxpayers to understand compliance behavior. They found several factors affecting evasion intentions: personal and demographic characteristics, moral outlook,

age, and perception of others' evasion. Lewis (1982) and Cialdini (1989) used the model to determine the possibility of improving compliance by educating taxpayers about their social responsibility of paying taxes.

After Ajzen (1991) introduced the Theory of Planned Behavior, they link beliefs and behavior, in a bid to explain human behavior. The 8 concepts aimed at improving the predictive power of the theory of reasoned action by including perceived behavioral control. According to this theory, the behavior of individuals within the society is influenced by definite factors which originate from certain reasons and emerge in a planned way. The ability to perform a particular behavior depends on the fact that the individual has a purpose for that behavior (behavioral intention).

Behavioral intention is seen as the precursor that immediately leads to the actual behavior that means that individual will react depending on the behavioral intention formed and developed. According to Theory of Reasoned Action, individual actions are influenced by perceptions and attitudes and the theory recognizes that reality that attitudes indicate specific behavior and perceived social norms may contradict it (Ogjen, 2003). These theory guides the moderating variable of the study. People with educated or informed on tax can make decision based on facts unlike people without taxation knowledge. Thus, whenever KRA introduces new technology, there is need to do not only training, but also they need to do public participation to get vies of the taxpayers before implementing the technology.

2.4 Empirical Literature

This section presents a review of past research studies on the effects of tax modernization programs tax compliance among SMEs. The empirical review is done in line with the research objectives whereby the first section looks at the effects of tax

invoice management system on tax compliance, the second section reviews literature on the effects of electronic tax returns on tax compliance, while the third section reviews literature on the effects of electronic tax payment on tax compliance among the SMEs.

2.4.1 Tax Invoice Management System and Tax Compliance

Muhammed and Tesafa (2015) sought to understand the impact of ETRs machines on VAT compliance among VAT registered taxpayers empirically, in Amhara National Regional State, taking the case of the city of Bahir Dar. The study used a sample of 176 VAT registered taxpayers and thus uses ETRs machines in the study area. Simple random sampling technique was used to draw the samples from the total target population. Primary data were collected with the help of Likert type items, each with a 5-point scale from respondents. The collected data was analysed with the help of SPSS version 21. The Multiple Logistic Regression analysis was employed to predict the likely impact of using ETRs machines on VAT compliance in the target population. The beta coefficient for ETRs was 1.226, showing a positive contribution. That is to say, when a VAT registered taxpayers' increases the use of ETRs machines in his or her sales transaction, the log odds of showing a complaint attitude towards VAT payment would increase, holding other explanatory variables constant. The result is statistically significant as the p-value for ETRs is 0.039, which is less than 0.05 as shown from the Logistic regression output.

Chege, Kiragu, Lagat and Muthoni (2015) sought to assess the effect of implementing Electronic Fiscal Devices in VAT collection in Tanzania. The study analysed the importance of Electronic Fiscal Devices to TRA, taxpayers and other stakeholders with the aim of determining the impact of Compliance Checks using Electronic Fiscal Devices on VAT collection in Tanzania, to establish the effect of Roll Out of Electronic

Fiscal Devices on VAT collection in Tanzania and to evaluate the effectiveness of Enforcement of Electronic Fiscal Devices on VAT collection in Tanzania. The study utilized secondary data obtained from 391 traders registered at TRA and utilizing Electronic Fiscal Devices. The study adopted a descriptive research design. Preliminary data analysis was conducted as a pre-requisite to running regression analysis. The data collected was computed using STATA SE 12.1 and the output presented in form of tables. To answer the research objectives and hypotheses regression analysis was utilized where variables of the study were only able to explain 62.18% of the change in VAT collection and a 37.82% of the change being explained by other factors. The regression coefficients were negative for Compliance (- 2.045778), positive for Roll out (2.040379) and positive for Enforcement (19.11515). The study found out that there is statistically significant relationship between Roll out of Electronic Fiscal Devices and VAT collection.

Locally, Kiprotich, Siring and Musonera (2012) conducted study to assess the impact of use of ETRs on VAT compliance among private business firms in Kisumu city, Kenya. A sample of 233 private firms was selected from a population of 590 private firms using stratified sampling technique. The data was gathered by use of questionnaires and analysed by use of correlation and descriptive statistics. Empirical results reveals that effective and regular use of ETR has a significant impact on the VAT compliance ($R=0.622$, $p=0.005$). Based on the research findings the study concludes that use of ETR has a significant impact on VAT compliance in Kenya.

Omweri and Bernard (2010) assess the effectiveness of ETRs in the collection of VAT returns. The study measured the problems of using Cash Register Machine facing tax payers and tax collectors as well as get possible solutions to the problems. The study sought to establish if the Electronic Tax Registers had increased the speed at which

taxpayers processed their VAT returns and if there were any associated costs in the processing of VAT.

2.4.2 Electronic Returns and Tax Compliance

Amitabh *et al.* (2009) did a study on the antecedents of paperless income tax filing by young professionals in India. The objective of this study was to study how young Indian professionals will adopt or behave towards paperless or online filing of tax returns with the aim of enhancing compliance. The regression analysis carried out found that the antecedents of young Indian professionals depended on the perceived ease of the tax system, personal innovativeness in information technology, relative advantage, performance of filing service, and compatibility.

Ling and Nawawi (2010) in Malaysia from a survey on the integration of tax software education and ICT skills. They found that there are three skills required by taxpayers to fully utilize tax online systems. These are email, word processing and spreadsheets. For benefits of e-filing to be realized, the necessary user skills like computer literacy as well as a positive attitude towards technology are prerequisites.

Lukwata (2011) sought out to investigate the influence of the electronic tax filing system on tax compliance and tax collection by Uganda revenue authority (URA). The research therefore specifically sought to ascertain the extent to which e-tax has achieved its objectives and to establish the ease of use of the system and the attitude of tax payers towards the system. The study employed a survey research design and used self-administered questionnaires. A sampling design of 38 respondents was selected which composed of 20 importers, 8 clearing agents and 10 URA officials from the IT department. Findings from the study further show that the electronic tax filing system has the potential of increasing tax compliance and revenue collection in URA but a lot

has to be done to avert the obstacles that may not make it possible.

Obert, Kotsai, Tendai and Desderio (2018) sought to find Effect of e-tax filing on tax compliance in Harare, Zimbabwe. Data collection was mainly through a questionnaire. Analysis of data was done through SPSS Version 20 and Excel. The study also established that there was a positive attitude by clients towards electronic filing. Electronic filing has also significantly increased the ease of doing business. The study established that 67% of the businesses had internet connectivity and only 33% did not have. ZIMRA online users 77% of the respondents are registered with ZIMRA, thus e-filing can be adopted easily if all other factors are held constant. Registered companies can transact electronically without having to physically visit the authority. Registering with ZIMRA online also means that the company is able to submit through the internet as alluded to by Wasao (2014) who echoes that e-filing process is where tax returns are submitted through internet, without submission of a paper return. Those who were not registered stated that they were never trained in e-services thus had no push to register.

Ondara, Maina and Kwasira (2016) assessed the level of awareness regarding online filing of tax returns in the context of the Small and Medium Enterprises in Nakuru. The Small and Medium Enterprises in Nakuru Central Business District have been chosen owing to the fact that Nakuru town is the fastest growing town in East and Central Africa due to the high number of Small and Medium Enterprises in the town. The specific objectives of the study included examination of the effect of computer literacy on tax compliance among Small and Medium Enterprises in Nakuru, examination of the impact of online tax filing on tax compliance among Small and Medium Enterprises and an examination of perceived security on tax compliance. The study utilized the survey descriptive research design in which quantitative data was collected through use

of primary data collection techniques. Primary data was collected using questionnaires. A sample size of 100 respondents from the Small and Medium Enterprises in Nakuru was utilized. The study found that there was no significant relationship between online tax system stability and tax compliance amongst SMEs in Nakuru, Kenya.

Muita (2010) did a related study on the factors that influence adoption and use of e-filing system among Large Taxpayers in Kenya. The study examined the skills required by the users of e-filing, the technology required and the tax authority's preparedness in enhancing the adoption of tax compliance based technology. The study found that for e-filing to effectively take off in Kenya skills, infrastructure and a conducive business environment are needed.

A study conducted by Nyaegah (2018) on influence of iTax project on tax return compliance by taxpayers in Nakuru Central Business District. The study sampled 50 individual taxpayers and the results indicated that 76% attributed use of iTax as being convenient and easy to file their returns and recommended on the use of iTax as a model of meeting tax obligation on time.

2.4.3 Electronic Tax Payment and Tax Compliance

A UK based study by Nisar (2006) on 'e-governance in revenue collection & administration' found that the government had comprehensive, focused websites that provided the taxpayers with detailed information about the service procedures for both individuals and businesses. Filing and payments were as well done online rendering the revenue Authority to swiftly analyse the data in the system and give the customers' feedback online hence leading to a refined service strategy. He further revealed that error and the taxpayer did fraud detections had been improved by automation since validation of returns before reaching the back-office processing systems.

Okiro (2015) conducted a study on ‘the effect of e-payment systems on revenue collection by the Nairobi City Council’. He found out that the revenue collected in the year 2013/2014 increased by 19.83% from 75.59% to 95.4%. This increase was attributed to the introduction and usage of the e-payment services in the Nairobi County. He further concluded that the use of e-payment in Nairobi County would significantly increase the revenue production.

Owino, Senaji and Ntara (2017) studied the effect of innovation in revenue collection processes on organizational performance of Nairobi City County. The objective of the study was to establish to what extent online receipting process influence organization performance. The design of this research was a descriptive survey research. The population for this study composed of 13 top level managers, 41 middle level managers and 102 low level managers. Stratified proportionate random sampling technique was used to select the sample of 111 respondents. The study used a semi structured self-administered questionnaire to collect data from the respondents. Quantitative data was analyzed by descriptive analysis using SPSS and presented in form of frequency tables. Content analysis was used for the qualitative data and then presented in prose. The study also conducted a multiple regression analysis to establish the relationship between the variables. The study found that online payment and receipting process significantly affects organizational performance in Nairobi County.

Kamolo (2014) conducted an analysis of risks that affect value added tax revenue collection by Kenya Revenue Authority. The purpose of the study was to analyze the risks that impact on Value Added Tax (VAT) revenue collection by the Kenya Revenue Authority (KRA). The study was necessitated by the declining VAT revenue despite KRA implementing several innovative strategies to maximize revenue collection. The study was to identify the risks that affect revenue collection and secondly to analyse the

impact of those risks as to whether they are high, moderate or low. The sampling technique applied was probability sampling which used stratified sampling. This was important as all elements responsible for identifying risks at every level was captured. The semi structured questionnaires have been administered to the staff. As this is a policy oriented research, the qualitative data analysis method has been used. The study found out that the risks are well understood and identified by the tax managers and some tax auditors. However, the revenue officers who are the majority did not identify the risks adequately as the other groups. The risks do affect revenue collection. The study found out the most of the identified when analysed has high rate occurrence and high impact on the revenue receivable by the Authority.

The study by Nyongesa (2014) attempted to establish the strategies adopted by the County Government of Mombasa in Raising Revenue. This study employed a case study method. A case study where data was collected through face to face interview. The researcher used the interview guide to aid in obtaining information from the respective respondents who were the departmental heads that were well conversant with the County Operations. The respondents included the Executive Committee Members and the Chief Officers who are holders of Authority to Incur Expenditure (AIE) from each of the 11 cabinets in Mombasa County. This constituted a total of 22 respondents. The data was analysed using content analysis. Content analysis enabled the researcher to sift through large volumes of data with relative ease in a systematic fashion. The study found that the use of automation of revenue collection system would widely increase the revenue collection but it was not clear how the revenue collection would be influenced by e-payment.

2.4.4 Moderating Role of Tax Training on Tax Compliance

Nagel, Rosendahl-Huber, Van Praag and Goslinga (2019) estimates the long-term impact of a short, partly personalized, mandatory tax training program on tax compliance and business outcomes of first-time entrepreneurs. To this end, we combine survey data, audit data and unique register data from the Netherlands' Tax and Customs Administration with a three year long randomized experiment. The results show that the training affects specific domains of tax compliant behavior. Moreover, it has no impact on business survival, but treated entrepreneurs have significantly higher profits compared to the control group due to lower business costs. These outcomes are partially supportive of our hypotheses developed from theories on tax compliance and mental accounting.

Onuoha, Akintoye and Oyedokun (2019) undertook a study on “the Role of tax training and enlightenment on tax revenue growth in Nigeria.” This study aim was at establishing the effect of tax education and enlightenment on total tax revenue. The survey design was adopted and through a close-ended questionnaire primary data were collected and analysed using descriptive and inferential regression analysis. The results showed that tax education and enlightenment positively and significantly affected the total tax revenue. Radio and television were revealed as the strongest tax education channels. The study suggested that the Federal Government of Nigeria should set up and sufficiently fund an autonomous department to handle all tax education and enlightenment issues as this can enable the unit function more vigorously.

Mansur, Prasetyo, Beatrice and Hernando (2021) sought to determine the effect of tax training and tax understanding on tax compliance. To examined the effect of tax training on MSME taxpayer compliance in the city of Jambi. The study uses a moderating variable of tax sanctions on the relationship between tax training and tax knowledge on

taxpayer compliance. The population and sample in this study used compulsory taxation for MSMEs in Jambi City, with the data collected utilizing a questionnaire. The results of this study show that tax training affects SME taxpayer compliance and tax knowledge also affects the compliance of MSME taxpayers, and tax sanctions can moderate the relationship between tax training and tax knowledge on MSME taxpayer compliance in Jambi City.

Sindani (2019) assessed the moderating effect of financial literacy on the relationship between Accounts receivable management practices and growth of SME in Kakamega County, Kenya. This study adopted a mixed survey research design. The target population was 5401 registered SMEs under Single Business Permit Registration. Proportionate stratified random sampling technique was used to select 359 SMEs. Primary data was collected using semi-structured questionnaire. The data was analysed using the Statistical Packages for Social Sciences (SPSS). Analysis of the data collected focused on both the descriptive statistics (trends) and inferential statistics (Pearson Correlation Coefficients and multiple regression coefficients. The analysed data was presented in frequency tables and graphs. Regression analysis was used to establish the relationship between the independent and dependent variables. The study findings revealed that the SME owners were informed about various aspects of finances such as using credit monitoring methods, computing discounts and using credit collection methods. However, results revealed that the SME owners who were more financially literate were able to manage their accounts receivables.

Mwangi and Macharia (2021) assessed the effect of social media education on tax compliance among motor vehicles spares traders in Suburb area of Nakuru town, Kenya. This study employed an explanatory research design. This study target population was 300 motor vehicles spare traders operating in the suburb area of Nakuru

town. The sample size of the study was 150-motor vehicle spare traders operating in the Nakuru town suburb area. This study collected primary data using structured questionnaires. The study found that social media education is positively related to compliance to taxation. The study concluded that it is important and significant to include the element of taxpayer education by use of social media.

2.5 Conceptual Framework

Mugenda, (2008) defines conceptual framework as a concise description of the phenomenon under study accompanied by a graphical or visual depiction of the major variables of the study. According to Young (2009), conceptual framework is a diagrammatical representation that shows the relationship between dependent variable and independent variables. In the study, the conceptual framework will look at the effect of tax modernization program on tax compliance among the SMEs in Nakuru County, Kenya. The dependent variable will be measured by accuracy of returns filed and timely payment of taxes.

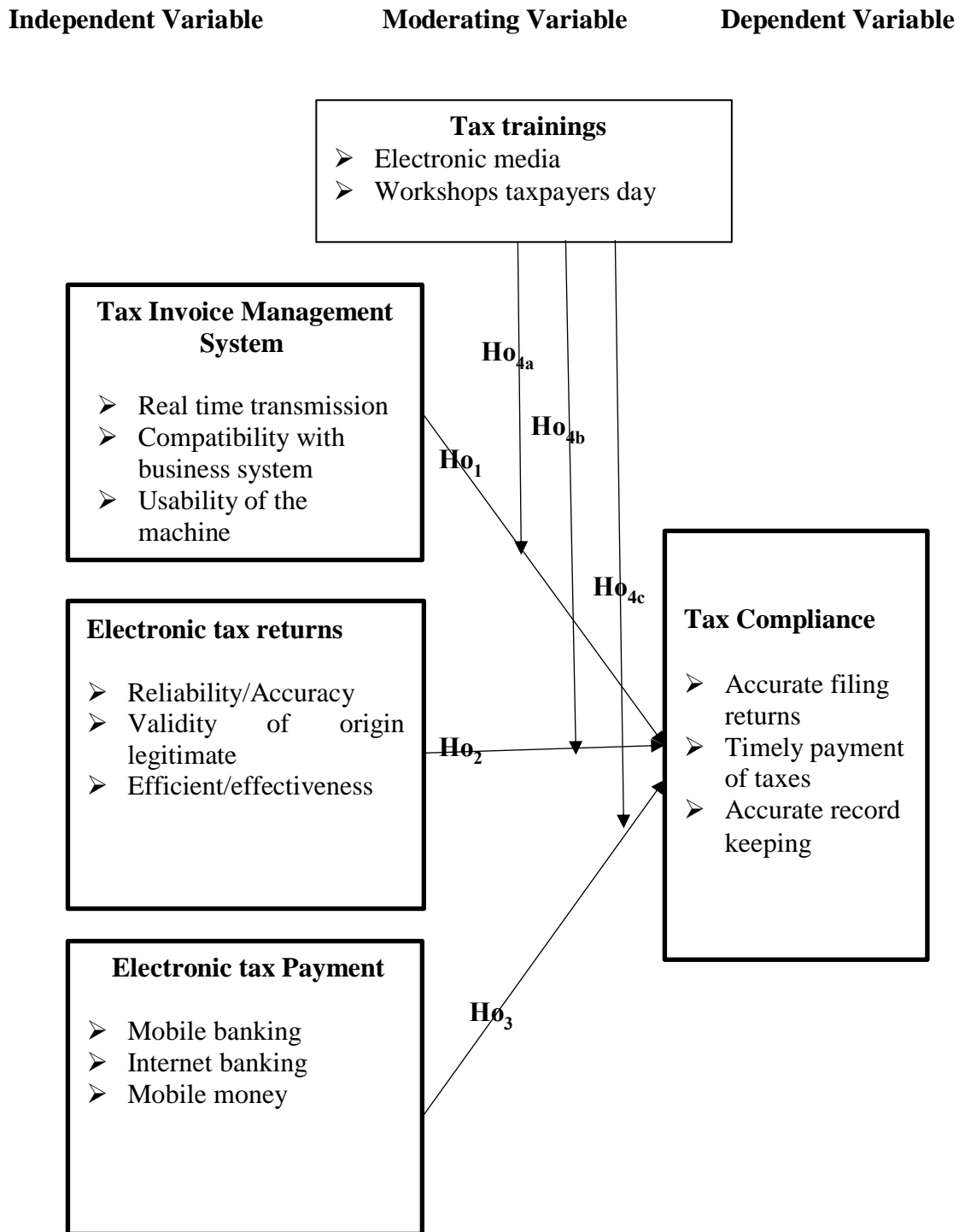


Figure 2.1 Conceptual Framework

Source: Researcher, 2022

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

This chapter outlines the research methods and procedures that were utilized in undertaking this study. Under this section, the research philosophy and design, the target population, the sample size and sampling technique, the data collection instruments and procedures, pilot testing, data analysis and presentation as well as the ethical issues that observed in this study are discussed.

3.2 Study Location

Nakuru County is a county in Kenya. It is County number 32 out of the 47 Kenyan Counties. The capital and largest town is Nakuru, with Naivasha being another major significant urban centre. With a population of 2,162,202 (2019 census), it is the third most populous county in Kenya after Nairobi County and Kiambu County, in that order. With an area of 7,496.5 km², it is Kenya's 19th largest county in size. Until August 21, 2010, it formed part of Rift Valley Province. The high population and fertile land in the county make the city to be an agricultural and industrial town with much notable business like Keroche breweries. There is therefore need to do a study to find out if these businesses are tax compliant, and therefore the choice of Nakuru county as the geographical focus of is study.

3.3 Research Design

A research design refers to the general plan that a research study utilizes in order to achieve the research objectives. Cooper and Schindler (2003) summarize the essentials of research design as an activity and time based plan; always based on the research question; guides the selection of sources and types of information; a framework for specifying the relationship among the study variables and outlines the procedures for

every research activity. The study used explanatory research design. Explanatory research is conducted in order to help find the problem that was not studied before in-depth (Kothari, 2012). An explanatory research develops research questions of a survey while explanatory research design answers the research questions, thus upholding or rejecting the null hypothesis of the study.

3.4 Target Population

Mugenda and Mugenda (2003) described population, as the entire group of individuals or items under consideration in any field of inquiry and have a common attribute. In addition, Mugenda and Mugenda (2012) defined population as the entire group of individuals, events or objects having a common observable characteristic that the researcher intends to find out and generalize the results of its characteristics for decision-making. The study targeted 32,272 SMEs registered with KRA within Nakuru County. Nakuru County is selected as it hosts a large number of SMEs operating in different economic sectors and hence, it made it possible to compare compliance levels among SMEs in different economic sectors. Data will be collected through administration of pretested questionnaires to the owners of the SMEs businesses. The data was then analysed using both descriptive and inferential statistics and presented using tables and figures.

3.5 Sampling Design and Sampling Technique

Mugenda (2013) defined sampling design as the procedure by which the researcher selects a particular sample from a population. Sampling design is meant to systematically present on how the study sample was arrived at.

Table 3.1: Measurement of variables

Variable	Measurement	Scale	Source
Tax invoice management system	➤ Real time transmission	5-point likert scale	Lee, (2016)
	➤ Compatibility with business system	5-point likert scale	
	➤ Usability of the machines	5-point likert scale	
Electronic tax returns	➤ Reliability	5-point likert scale	Sifile <i>et al.</i> , (2018)
	➤ Validity Of Origin Legitimate	5-point likert scale	
	➤ Effectiveness	5 - point likert scale	
Electronic tax Payment	➤ Mobile banking	5-point likert scale	Brockmeyer, and Sáenz,(2022)
	➤ Internet banking	5 - point likert scale	
	➤ Mobile money	5 - point likert scale	
Tax Compliance	➤ Accurate filing of Returns	5 - point likert scale	Gwaro, Maina, & Kwasira, (2016)
	➤ Timely payment of taxes	5 - point likert scale	
	➤ Registration	5 - point likert scale	

Source: Researcher, 2022

3.5.1 Sample Size and Sampling Technique

Kombo and Tromp (2006) define a sample as a finite part of a statistical population whose properties are studied to gain information about the whole or universe. A sample size must be large enough to be representative of the universe population (Kothari, 2012). Creswell (2014) stresses that sample size chosen by the researcher should be capable of giving enough information about the population and one which can be analyzed with ease. The sample for this study was determined using Yamane Taro (1967) Formulae.

This is computed as follows;

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

Where n = Desired sample size

N = Total Population under Study (In this case, there are 32,272 SMEs)

e = Signifies the margin of error in this case taken as 5%

Hence,

$$n = \frac{32,272}{1 + 32,272(0.05)^2} = 395.103$$

Therefore n= 395 SMEs

3.5.2 Sampling Technique

The study utilized different sampling methods. Purposive sampling technique was used to select Nakuru as the focus of this study. The rationale of choosing Nakuru town is that it hosts a large number Purposive sampling technique will also be used to select the SMEs owners and managers. The rationale of choosing the owners and the managers is that they are well conversant with the operations of their business and they are well place to give reliable data on the effects of tax modernization on tax compliance. The businesses to partake in the study was selected using simple random sampling method. The rationale of using this method is that it gives each member of the target population equal chances of section and inclusion to the sample. In this study, the method gave every SME equal chances of inclusion to the sample.

3.6 Operationalization and Measurement of Variables

The variables of concern in the proposed research are tax invoice management system, electronic tax returns, electronic tax payment and tax compliance. These variables cannot be directly measured hence the need to identify measurable indicators to take

the place of the variables. The measurements of the variables will be done by the 5-point Likert Scale.

3.7 Data Collection Instruments

The study utilized primary data. Primary data was collected using structured questionnaires. The rationale of using the questionnaire is that it has the ability to collect comprehensive data from a large sample economically. The questionnaire was structured as per the study objectives in order to make it easier for the respondents to fill. The questionnaires were administered by the researcher himself with the help research assistants.

3.8 Data Collection Procedure

According to Daniel and Harland (2017), data collection methods is a procedure of gathering information from all the relevant sources by responding to the questions through writing, interview, observations or content analysis and presenting the answers to the research problem for outcome analysis. The questionnaires will be dropped to each of the respondent and given one week to fill the questionnaire. After one week, the questionnaires will be collected for subsequent analysis.

3.9 Pilot Testing

The study will carry out a pilot test to test the validity and reliability of the questionnaires in gathering the data required for purposes of the study. Kombo and Tromp (2009) and Kothari (2004) describe a pilot test as a replica and rehearsal of the main survey. Gall and Borg, (2007) states that the purpose of a pilot test is not so much to test research hypotheses, but rather to test protocols, data collection instruments, sample recruitment strategies and other aspects of a study in preparation for a larger study (Cooper and Schilder, 2011). The study will be piloted using 30 taxpayers from

the Kericho Town and then the pilot data was analysed using the Cronbach's Alpha test to examine the internal consistency of the data.

3.9.1 Reliability of instruments

Reliability refers to a measure of the degree to which research instruments yield consistent results (Mugenda & Mugenda, 2003). The pre-testing aims at determining the reliability of the research tools including the wording, structure and sequence of the questions. The reliability of the measures to be used in the questionnaire was established using Cronbach's alpha. According to Ritter (2010), the theoretical value of alpha varies from 0 to 1, since it is the ratio of two variances. Bryman (2008) suggests that where Cronbach's alpha is used for reliability test, alpha values for items included in a study should not be lower than 0.70.

3.9.2 Validity of instruments

Validity is the degree to which results obtained from the analysis of the data actually represents the phenomenon under study. Validity was ensured by having objective questions included in the questionnaire and by pre-testing the instrument to be used to identify and change any ambiguous, awkward, or offensive questions and technique as emphasized by Cooper and Schindler (2003). Expert opinion was requested to comment on the representativeness and suitability of questions and give suggestions of corrections to be made to the structure of the research tools. This will help to improve the content validity of the data that will be collected. Validity test was done using the KMO test whose threshold is 0.5.

3.10 Data Analysis and Presentation

After data collection, data the questionnaires was scrutinized to ensure completeness. The data was analysed using the Statistical Package for Social Sciences. This will be

done using both descriptive and inferential methods. Descriptive analysis will be done to gain a profound understanding of the characteristics of the SMEs and the respondents. Inferential analysis will be done to determine the relationship between the independent variables and the dependent variables. Before inferential statistics all the variables were transformed.

3.10.1 Regression Model

According to Hosmer and Stanley (2000) for any data analysis, which is concerned with describing the relationship between a dependent variable with the independent variables, regression models have become an integral component. The estimated model used was,

$$TC = \alpha + \beta_1TIM + \beta_2ETR + \beta_3ETP + \varepsilon \dots\dots\dots (3.1)$$

Where:

TC = Tax compliance

TIM = Tax invoice management system

ETR = Electronic tax returns

ETP = Electronic tax Payment

β_0 = Constant term

β_1 = regression coefficients for tax invoice management system

β_2 = regression coefficients for electronic tax returns

β_3 = regression coefficients for electronic tax payment

ε = the error term

3.10.2 Hierarchical Regression Model

The study employed the moderated hierarchical regression method, in which a moderator variable is calculated as the product of two variables, i.e., a moderator variable and an independent variable (Aiken and West, 1991). Hayes (2013), on the other hand, outlined the conditions that must be met for moderation:

- i. The quantity of variance accounted for by the variables with the interaction must be significantly greater than the variance accounted for without the interaction.
- ii. the coefficient for interaction terms must be greater than zero.
- iii. The global models with and without interaction should be statistically significant.

It is possible to monitor the changes in the coefficient of determination (R^2) each time an additional predictor variable is added to the model (Little et al., 2012), so hierarchical regression was deemed appropriate for the current study. The moderated hierarchical regression equation was estimated and divided into two models: Model 1 represented the regression of direct variables, while Model 2 represented the interaction regression between the independent variables, moderator, and independent variable.

In step one, the moderator is factored in as an independent variable. Equation 3.1 is expanded to obtain equations 3.2 which is used for estimation.

$$TC = \alpha + \beta_1TIM + \beta_2ETR + \beta_3ETP + \beta_4TT + \varepsilon \dots\dots\dots (3.2)$$

Where **TT** is the tax training and **B₄** is regression coefficients for tax training

In step two, the moderator is factored in as an interaction effect. Equation 3.2 is expanded to obtain equations 3.3, 3.4 and 3.5 which is used for estimation.

$$TC = \alpha + \beta_1TIM + \beta_2ETR + \beta_3ETP + \beta_4TT + \beta_5TIMS*TT + \varepsilon \dots\dots\dots (3.3)$$

$$TC = \alpha + \beta_1TIM + \beta_2ETR + \beta_3ETP + \beta_4TT + \beta_5TIMS*TT + \beta_6ETR*TT + \varepsilon \dots\dots\dots (3.4)$$

$$TC = \alpha + \beta_1TIM + \beta_2ETR + \beta_3ETP + \beta_4TT + \beta_5TIMS*TT + \beta_6ETR*TT + \beta_7ETP*TT + \varepsilon \dots \dots \dots (3.5)$$

Where β_5 , β_6 and β_7 are regression coefficients for interaction terms between tax training (moderator variable) with each of the independent variable. Tax training is only as a moderating variable if variables β_1 , β_2 and β_3 in model 3.3 are not significant ($P > 0.05$) while β_4 in model 3.3 is significant at ($P < 0.05$). Tax training is a moderator whose impact and direction are indicated by the β s if β_5 to β_7 in model 3.5 are significant.

3.10.3 Diagnostics tests

3.10.3.1 Normality Test

Normality has been postulated as a critical assumption that must be satisfied in order to conduct multivariate analysis (Hair et al, 2006). Regression analysis assumes that data follows a normal distribution. To test for normality, the study utilized the normal probability plot (P-P plot). The normal P-P plot was used to check if the data exhibits the standard normal distribution. According to Jones (2022), indication of presence of normality in a data set is confirmed when majority of the data points are distributed along the normal PP line. Consequently, the normality assumption for the study was met when the plotted data points fell along the normal PP line thus concluding that the data is normally distributed.

3.10.3.2 Multi-collinearity Test

High correlation between two or more independent variables is known to constitute multi-collinearity, which when present negatively affects the regression parameter estimation. The study adopted the Variance Inflation Factor (VIF) and the tolerance level to check for presence of multi-collinearity. For VIF, a threshold of between 1 and 10 was applied. Thus, a VIF value of less than 1 or greater than 10 indicated presence

of multi-collinearity. On the other hand, a tolerance level greater than 0.10 was recommended (Fidell, 2001).

3.10.3.3 Homoscedasticity

Means variance of errors is the same across all levels of the IV, when variance of errors differ at different values of the IV, heteroscedacity is indicated. This was tested using white test.

3.11 Ethical Considerations

Ethics refers to norms and procedures that guide conduct. In this study, a number of principles (Carrol & Buchholtz, 2000) guided the researcher. As part of ethical considerations, the researcher first obtained an approval letter from the university. Secondly, the researcher will obtain a research permit from National Commission for Science, Technology & Innovation (NACOSTI). Before administering the questionnaires, the researcher explained the purpose of the study to the respondents to make them fully aware of the study in order for them to give consent. To make sure that the respondents are protected, the researcher maintained confidentiality of the respondents and the data that they were to give. Further, in the research process, the researcher did not engage in activities that can cause psychological or physical harm to the respondents. In the analysis, interpretation was limited to the data and information obtained without bias. The findings were be used strictly for the intended purpose.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.0 Overview

This chapter presents the study findings. Specifically, the chapter is structured into analysis of the respondent's basic information, diagnostic assumptions, and descriptive statistics of based on the study objectives, as well as the inferential statistics. The last section of the chapter presented a detailed discussion of the study results obtained.

4.1 Response Rate

By use of research assistants, the researcher distributed 395 questionnaires to the SMEs in Nakuru County. Out of these, 297 questionnaires were fully answered and returned. The results are as shown in figure 4.1 below.

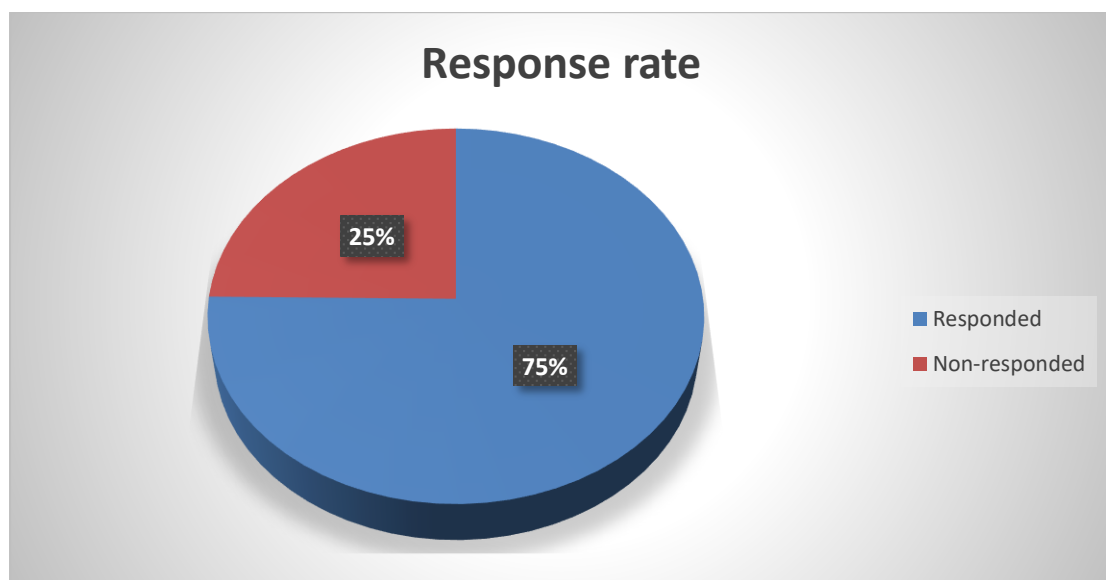


Figure 4.1: Response Rate

Figure 4.1 above shows a response rate of 75%. Only 25% of the respondents never returned their questionnaires. The response rate of 75% was considered adequate for data analysis. This is supported by Kothari (2014) who stated that response rate of 60% and above is good while over 70% was very good.

4.2 Reliability Test Results

A Cronbach's alpha coefficient was used to assess the instrument's reliability. That is to ascertain the repeatability, stability or internal consistency of a questionnaire used in the research. This was done by piloting the questionnaires using 10 SMEs from the Kericho Town. The results are as shown in table 4.1 below.

Table 4.1: Reliability of research instrument

Variable	Cronbach's Alpha	Number of Items	Comment
Tax compliance	0.746	5	Accepted
Tax invoice management	0.713	5	Accepted
Electronic Tax Returns	0.740	5	Accepted
Electronic Tax Payment	0.764	5	Accepted
Tax Training	0.721	5	Accepted

Source: Field Data, 2022

Cronbach's alpha coefficient for tax invoice management system was found to be 0.713 while that of Electronic Tax Returns was found to be 0.740. Furthermore, electronic tax payment yielded a Cronbach's alpha of .764, while that of tax training was found to be 0.721. Lastly, the Cronbach's alpha coefficient for tax compliance was found to be 0.746. Each of the Cronbach's alpha coefficients is above 0.7 suggested by Bryman (2008).

4.3 Validity Test Results

Table 4. 1 Validity Test Results

Variable	KMO and Bartlett's Test	Number of Items	Comment
Tax compliance	0.718	5	Accepted
Tax invoice management	0.746	5	Accepted
Electronic Tax Returns	0.774	5	Accepted
Electronic Tax Payment	0.728	5	Accepted
Tax Training	0.781	5	Accepted

Source: Field Data, 2023

From the above results, it was shown that the KMO and Bartlett's for each of the variable tax compliance (TC), tax invoice management system (TIMS), electronic tax returns (ETR), electronic tax payment (ETP) and tax training (TT) was more than 0.05, meaning that all of them were valid.

4.4 Assumptions of Regression

4.4.1 Normality Test

Normality test was conducted through the use of normal P-P plots to ensure that the data set was distributed normally. The normal P-P plot shown in Figure 4.2 below revealed that the data points fell along the diagonal line in the normal P-P plot. It can thus be inferred that the normality assumption was upheld therefore the data set was ideal for use in the study. These results are similar with those of Engotoit *et al* (2016) who established that normality in a data set is present when the data points are close to the best fit line in the P-P plot.

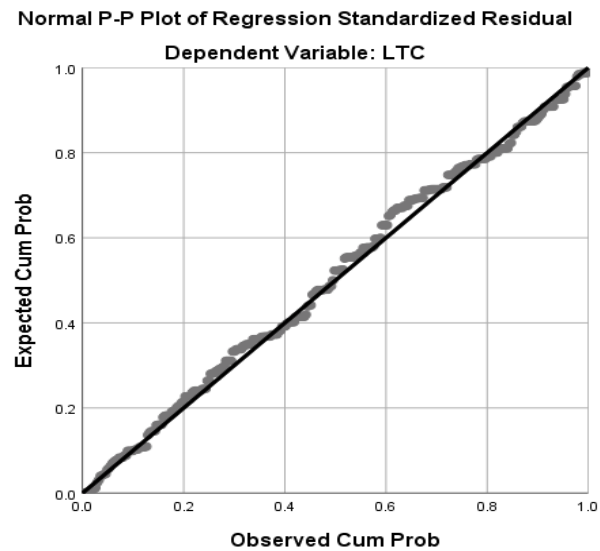


Figure 4.2: Normality test Results

4.4.2 Multicollinearity Test

Tolerance value and variance inflation factor (VIF) were used as test for multicollinearity where a tolerance value of less than 1 and VIF value of more than 10 suggest presence of multicollinearity test. The results are as shown in table 4.5 below.

Table 4.3 Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
LTIM	.654	1.529
LETR	.687	1.455
LETP	.787	1.271
LTT	.923	1.084

Source: Field Data, 2022

The results show that tax invoice management system, electronic tax returns, electronic tax payment and tax training each had VIF of 1.529, 1.455, 1.271 and 1.084 respectively. Since all VIF for the three independent variables were less than 10, this study concludes that there is no multicollinearity problem and thus regression analysis was conducted to determine the effect of the three independent variables (tax invoice management system, electronic tax returns and electronic tax payment) on tax compliance among SMEs in Nakuru County.

4.4.3 Homoscedasticity Test

Heteroscedasticity assumption requires that the variance of the errors to be constant. To check this assumption White test is conducted for the model. The model has no problem of heteroscedasticity or the error variance is constant since the p-value is not significant, because the p-value is 0.664 and is greater than 0.05. Consequently, the null hypothesis was not rejected and the assumption of constant variance of the error term was not violated.

Table 4.4: White test heteroscedasticity results

White's test for Ho: homoscedasticity			
Source	chi2	d.f	P
Heteroscedasticity	16.822	20	0.664

Source: Field Data, 2022

4.5 Descriptive Statistics

This section presents the descriptive statistics where these descriptive statistics are derived from a Likert scale in the questionnaires where the respondents were supposed to indicate their level of agreement or otherwise with a given statement.

4.5.1 Tax Invoice Management System and Tax Compliance

The first objective was to determine the effect of tax invoice management system on tax compliance among small and medium enterprises in Nakuru County, Kenya. The results were presented in table 4.6.

Table 4.5 Tax Invoice Management System

Tax Invoice Management System	N	Mean	Std. Dev.
The cost of buying, installation and maintenance of ETR machines is too high for small traders.	297	3.5758	.67919
Tax invoice management system is fully compatible with ETR machines and other businesses ICT systems	297	3.8586	.77994
Validations and authentications of tax invoices at trader tills is transmitted for billing in real time	297	3.7744	.79671
Number of transactions that an ETR can perform per unit times has influence on level of adoption of ETR machines	297	4.0202	.73952
The TIMS is user friendly	297	4.1347	.67437
Valid N (listwise)	297	3.8727	

Source: Field Data, 2022

The descriptive results shows that the cost of buying, installation and maintenance of ETR machines is too high for small traders (N=297, M=3.5758, S.D=0.67919). Also, it was shown that tax invoice management system is fully compatible with ETR machines and other businesses ICT systems (N=297, M=3.8586, S.D=0.77994). In addition, it was shown that validations and authentications of tax invoices at trader tills is transmitted for billing in real time (N=297, M=3.7744, S.D=0.79671). The findings also showed that number of transactions that an ETR can perform per unit times has

influence on level of adoption of ETR machines (N=297, M=4.0202, S.D=0.73952). Lastly, it was shown that the TIMS is user friendly (N=297, M=4.1347, S.D=0.67437). On average, the variable had a mean of 3.8727 meaning that there is significant progress in the adoption of the tax invoice management system by the taxpayers.

4.5.2 Electronic Tax Returns and Tax Compliance

The second variable was electronic tax returns. The results were presented in table 4.7.

Table 4.6 Electronic Tax Returns

Electronic Tax Returns	N	Mean	Std. Dev.
Making returns online using iTax is efficient and cost effective	297	3.9091	.77229
Making returns using iTax system is reliable and accurate	297	3.8283	.78895
validity of origin legitimate of the income can be determined while making the online returns	297	3.9899	.72356
Making returns online saves on cost, time and human resource	297	3.9327	.76373
Through iTax, I can make returns in comfort of my office/home	297	4.1077	.93821
Valid N (listwise)	297	3.9535	

Source: Field Data, 2022

The descriptive results shows that making returns online using iTax is efficient (N=297, M=3.9091, S.D=0.77229). Also, it was shown that making returns using iTax system is reliable and accurate (N=297, M=3.8283, S.D=0.78895). Also, the results showed that the Validity of origin legitimate of the income cannot be determined while making

the online returns (N=297, M=3.9899, S.D=0.72356). In addition, it was established that making returns online saves on cost, time and human resource (N=297, M=3.9327, S.D=0.76373). Also, through iTax, it was shown that taxpayers can make returns in comfort of my office/home (N=297, M=4.1077, S.D=0.93821). On average, electronic tax returns had a mean of 3.9535.

4.5.3 Electronic Tax Payment and Tax Compliance

Another variable was electronic tax payment. The results were presented in table 4.8.

Table 4.7 Electronic Tax Payment

Electronic Tax Payment	N	Mean	Std. Dev.
Printing KRA payment acknowledgement receipt using iTax is simple and fast.	297	3.6229	.66211
Use of Mpesa pay bill services to taxes has made it easy and fast to remit taxes to KRA	297	3.8586	.74449
Mobile banking is an efficient, reliable, cost effective and fast method of paying taxes.	297	3.8822	.75533
Use of KRA M-app has made tax payment easy and fast	297	3.9024	.75822
Majority of taxpayers embraced iTax system for tax remittances.	297	4.3300	.74358
Valid N (listwise)	297	3.9192	

Source: Field Data, 2022

The results from 297 respondent shows that Printing KRA payment acknowledgement receipt using iTax is simple and fast (N=297, M=3.6229, S.D=0.66211). However, it was shown that Use of Mpesa pay bill services to taxes has made it easy and fast to

remit taxes to KRA (N=297, M=3.8586, S.D=0.74449). In addition, it was shown that mobile banking is an efficient, reliable, cost effective and fast method of paying taxes (N=297, M=3.8822, S.D=0.75533). The results further shows that use of KRA M-app has made tax payment easy and fast (N=297, M=3.9024, S.D=0.75822). Lastly, it was shown that majority of taxpayers embraced iTax system for tax remittances (N=297, M=4.3300, S.D=0.74358).

4.5.4 Tax Training

The other variable was tax training. The results were presented in table 4.9.

Table 4.8 Tax Training

Tax Training	N	Mean	Std. Dev
Tax education I receive has supported me to understand different tax modernization programs	297	3.8519	.70106
Whenever there is a new innovation, taxpayers are informed through tax seminars and workshops	297	3.8990	.85616
KRA frequently distribute magazines to taxpayers explaining the working of new technologies	297	3.9461	.69052
KRA always avail enough information concerning new technologies in their website, Social Media and Webinars/content videos.	297	3.9663	.75262
Feedback on queries raised concerning implementation of new technologies is prompt	297	4.3300	.72518
Valid N (listwise)	297	3.9987	

Source: Field Data, 2022

The descriptive statistics showed that the education received by the taxpayers has supported me to understand different tax modernization programs (N=297, M=3.8519, S.D=0.70106). Also, it was shown that the education received by the taxpayers is relevant for their businesses (N=297, M=3.8990, S.D=0.85616). In addition, it was shown that KRA do distribute magazines to taxpayers explaining the working of new technologies frequently (N=297, M=3.9461, S.D=0.69052). The respondents further indicated that whenever there is a new innovation, they are informed through tax seminars and workshops (N=297, M=3.9663, S.D=0.75262). Lastly, it was shown that feedback on queries raised concerning implementation of new technologies is not prompt (N=297, M=4.3300, S.D=0.72518).

4.5.5 Tax Compliance

The dependent variable was Tax Compliance where the study sought to determine the level of tax compliance among small and medium enterprises in Nakuru County, Kenya. The results were presented in table 4.10.

Table 4.9: Tax Compliance

Tax Compliance	N	Mean	Std. Dev.
I always do correct tax self-assessment	297	3.6094	.86738
I mostly file my returns accurately	297	3.7104	.82425
I know how to file and pay taxes online	297	3.7946	.80638
Am registered on KRA iTax system	297	4.0000	.76229
I have the correct tax obligations	297	4.0842	.80726
Valid N (listwise)	297	3.8397	

Source: Field Data, 2022

The respondents indicated that they always do correct tax self-assessment (N=297, M=3.6094, S. D=0.86738). Also, they said that they mostly file their returns accurately (N=297, M=3.7104, S. D=0.82425). Also, they said that they have the correct tax obligation (N=297, M=3.7946, S. D=0.80638). Most respondents said that they have registered on KRA iTax system (N=297, M=3.7946, S. D=0.76229). Lastly, the results show that most SMEs keep accurate record of all transactions (N=297, M=4.0842, S. D=0.80726).

4.6 Correlation analysis

After performing descriptive analysis, correlation analysis was done to determine the association between the research variables. The correlation coefficients range from -1 for a perfect negative relationship to +1 for perfect positive relationship through zero for no relationship. Table 4.10 below shows the correlation coefficients between the variables. The study conducted correlation analysis to establish the relationship between variables.

Table 4.10 Correlations Matrix

	LTC	LTIM	LETR	LETP	LTT
LTC	1				
LTIM	.481**	1			
LETR	.503**	.520**	1		
LETP	.365**	.410**	.394**	1	
LTT	.449**	.269**	.198**	.113	1
	.000	.000	.001	.051	

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

* Correlation is significant at the 0.05 level (2-tailed).

Source: Field Data, 2022

The study indicated a positive and significant correlation between tax compliance and tax invoice management system at $r=0.259$ with $p\text{ value}=0.000<0.05$ implying that tax

invoice management system is significantly correlated to tax compliance at 5% significant level. Also, it was established that electronic tax returns also had a positive correlation $r=0.207$ with tax compliance with p value of 0.000 indicating they are significantly correlated. Also, electronic tax payment indicates correlation coefficient of 0.125 which was significant at $p=0.031<0.05$. This implied that there was a moderate association between electronic tax payment and tax compliance. Lastly, tax training indicates correlation coefficient of -0.087 which was insignificant at $p=0.136<0.05$. This implied that tax training as a variable alone do not have big influence on tax compliance.

4.7 Regression analysis

Regression analysis was conducted in order to predict the effect of the independent on the dependent variable. Multiple regression was computed at 95% confidence level (0.05 margin error) to show the multiple linear relationship.

4.8 Direct effect results

The study intends to assess of contribution of the independent variables on dependent variable. The study findings in table 4.12 illustrate the results of direct effect of tax invoice management system, electronic tax returns, electronic tax payment and tax compliance. Findings indicate that 33.4 percent of tax compliance can be predicted/explained by joint contribution of tax invoice management system, electronic tax returns and electronic tax payment (adjusted $R^2 = 0.327$).

Table 4.11: Direct effect results

Items	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	.121	.039		3.106	.002
LTIM	.286	.063	.264	4.567	.000
LETR	.352	.064	.314	5.473	.000
LETP	.145	.058	.134	2.496	.013
R Square	0.334				
Adjusted R Square	0.327				

Dependent Variable: Tax compliance

Source: Field Data, 2022

H0₁: *Tax invoice management system has no significant effect of tax compliance among the small and medium enterprises in Nakuru County.* From model 1, tax invoice management system was found to be positively and significantly related with tax compliance ($\beta_1=0.342$, $p=0.000<0.05$). From these findings null hypothesis was rejected since p value was less than significance level. The study accepted and adopted the alternative hypothesis and it was concluded that there is statistical significance between tax invoice management system and tax compliance among the small and medium enterprises in Nakuru County. The findings of this study agree with that of Lee (2016).

A Tax Invoice Management System plays a crucial role in enhancing tax compliance for businesses. It promotes accuracy and transparency in financial transactions. By automating the generation and storage of tax invoices, businesses can significantly reduce the likelihood of errors or omissions in their tax reporting (Yueting, Xiao and Yadong, 2018). This, in turn, helps tax authorities ensure that the correct amount of taxes is being collected and paid. Additionally, the system provides a clear audit trail, making it easier for both businesses and tax authorities to track and verify transactions,

ultimately reducing the chances of tax evasion or fraud. Tax Invoice Management System also streamlines the tax filing process. It simplifies the task of compiling all necessary tax documents and ensures that invoices are in compliance with tax regulations. This not only saves businesses time and effort but also reduces the risk of inadvertently overlooking tax obligations. Furthermore, the system can provide real-time access to tax data, allowing businesses to stay up-to-date with their tax liabilities and make timely payments (Herdityawan and Taman, 2020).

H0₂: *Electronic tax return has no significant effect on tax compliance among the small and medium enterprises in Nakuru County.* From model 1, electronic tax returns were found to be positively and significantly related with tax compliance ($\beta_2=0.118$, $p=0.022<0.05$). From these findings null hypothesis was rejected since p value was less than significance level. The study accepted and adopted the alternative hypothesis and it was concluded that there is statistical significance between electronic tax returns and tax compliance among the small and medium enterprises in Nakuru County. The findings of this study agree with that of Sifile et al., (2018).

Electronic tax return enhances accuracy and reduces errors in tax submissions. Traditional paper-based tax filing is prone to mistakes, such as transcription errors or missing information. Electronic systems, on the other hand, often come with built-in error-checking mechanisms that help taxpayers identify and correct errors before submission (Gwaro, Maina and Kwasira, 2016). This not only ensures that tax returns are complete and accurate but also reduces the likelihood of unintentional non-compliance due to simple oversights. Electronic tax return systems improve the efficiency and convenience of the tax filing process. Taxpayers can file their returns online from the comfort of their homes or offices, eliminating the need for physical

visits to tax offices. This convenience encourages timely filing and compliance. Additionally, electronic systems often provide instant confirmation of filing and acknowledgments, reducing the risk of late or missed filings (Gwaro, Maina and Kwasira, 2016).

H03: *Electronic tax payment has no significant effect on tax compliance among the small and medium enterprises in Nakuru County.* From the regression results, electronic tax payment was found to be positively and significantly related with tax compliance ($\beta_3=145$, $p=0.000<0.05$). From these findings null hypothesis was rejected since p value was less than significance level. The study accepted and adopted the alternative hypothesis and it was concluded that there is statistical significance between electronic tax payment and tax compliance among the small and medium enterprises in Nakuru County. The findings of this study agree with that of (Onuselogu and Onuora, 2021).

Electronic tax payments enhance convenience and reduce the burden on taxpayers. Electronic payment methods, such as online transfers or credit card payments, provide taxpayers with a hassle-free way to fulfil their tax obligations (Night and Bananuka, 2020). This ease of payment encourages timely compliance, as individuals and businesses are more likely to pay their taxes on time when the process is straightforward and accessible. It reduces the chances of procrastination or evasion that can occur with traditional paper-based payment methods. Electronic tax payment systems improve transparency and accountability. They provide both taxpayers and tax authorities with clear records of payment transactions. This transparency reduces disputes and errors related to payments, as discrepancies can be easily identified and resolved. Moreover, tax authorities can track and monitor payments in real-time, ensuring that taxes are collected promptly and accurately. The combination of convenience and transparency

offered by electronic tax payment systems fosters trust in the tax system, encouraging voluntary compliance among taxpayers who perceive that their payments are being used efficiently and fairly by the government (Tee, Boadi and Opoku, 2016).

4.9 Moderating Effect of Tax training

The study intends to assess of contribution of the moderator variable on the relationship between the independent variables and dependent variable. The study findings in table 4.13 illustrate the results of the moderating effect of tax training on the relationship between tax modernization and tax compliance. Findings indicate that 43.2 percent of tax compliance can be predicted/explained by joint contribution of tax training, tax invoice management system, electronic tax returns and electronic tax payment (adjusted $R^2 = 0.424$).

Regression results showed that tax training significantly moderated the interaction between tax modernization ($\beta_1=0.276$, $p=0.000<0.05$). From these findings null hypothesis was rejected since p value was less than significance level. The study accepted and adopted the alternative hypothesis. Therefore, the introduction of tax training as a moderating variable on the relationship between tax modernization and tax compliance improves the tax compliance of the small and medium enterprises in Nakuru County. The findings of this study agree with that of Nurlis & Ariani, (2020).

Table 4.12: Moderating effect of tax training

Items	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	.121	.039		3.106	.002
LTIM	.286	.063	.264	4.567	.000
LETR	.352	.064	.314	5.473	.000
LETP	.145	.058	.134	2.496	.013
LTT	.276	.039	.327	7.124	.000
R Square	0.432				
Adjusted R Square	0.424				

Dependent Variable: Tax compliance

Source: Field Data, 2022

4.10 Moderating effect of Tax training on the relationship between tax modernization and Tax compliance.

H0_{4a}: *Tax training does not moderate the relationship between Tax invoice management system and tax compliance among small and medium enterprises in Nakuru County, Kenya.* Regression results showed that tax training significantly moderated the interaction between tax invoice management system and tax compliance ($\beta=0.068$, $p=0.007<0.05$). From these findings null hypothesis was rejected since p value was less than significance level. The study accepted and adopted the alternative hypothesis. Therefore, the introduction of tax training as a moderating variable on the relationship between tax invoice management system and tax compliance improves the tax compliance of the small and medium enterprises in Nakuru County. Figure 4.3 below shows that tax compliance is high with high tax invoice management system and high tax training.

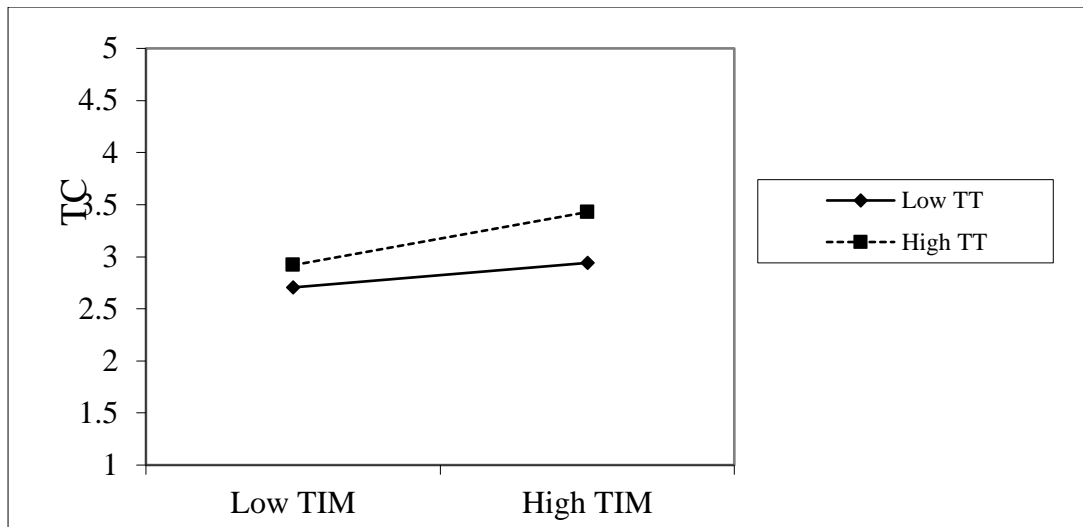


Figure 4.3: Modigraphs for the moderating effect of tax training on tax invoice management and tax compliance tax invoice management system

H0_{4b}: *Tax training does not moderate the relationship between Electronic tax returns and tax compliance among small and medium enterprises in Nakuru County, Kenya.*

Model 3 showed that tax training significantly moderated the interaction between electronic tax returns and tax compliance ($\beta_2=0.053$, $p=0.026<0.05$). From these findings the null hypothesis was rejected since p value was less than significance level. The study accepted and adopted the alternative hypothesis. Therefore, the introduction of tax training as a moderating variable on the relationship between electronic tax returns and tax compliance improves the tax compliance of the small and medium enterprises in Nakuru County. Figure 4.4 below shows that tax compliance is high with high electronic tax returns and high tax training.

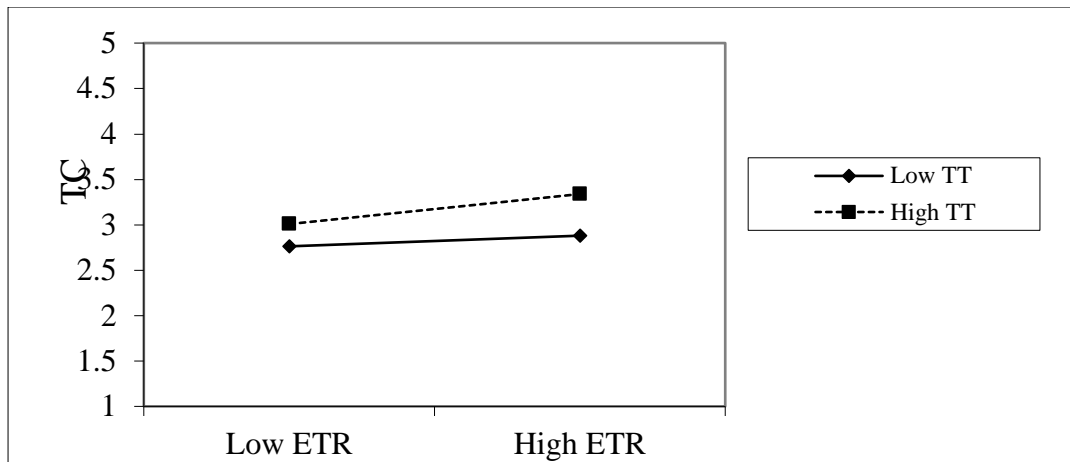


Figure 4.4: Modigraphs for the moderating effect of tax training on electronic tax returns and tax compliance tax invoice management system

H0_{4c}: *Tax training does not moderate the relationship between Electronic tax payment and tax compliance among small and medium enterprises in Nakuru County, Kenya.*

Model 4 showed that tax training significantly moderated the interaction between electronic tax payment and tax compliance ($\beta_3=0.455$, $p=0.000<0.05$). From these findings null hypothesis was rejected since p value was less than significance level. The study accepted and adopted the alternative hypothesis. Therefore, the introduction of tax training as a moderating variable on the relationship between electronic tax payment and tax compliance improves the tax compliance of the small and medium enterprises in Nakuru County. Figure 4.5 below shows that tax compliance is high with high electronic tax payment and high tax training.

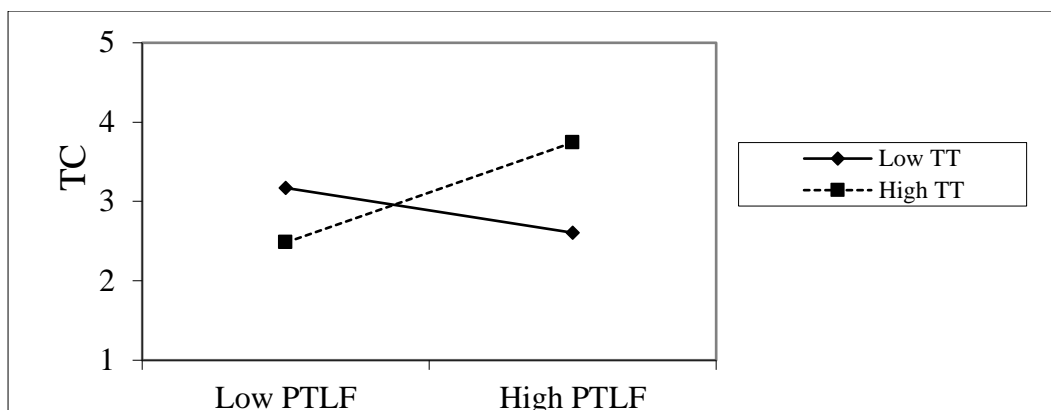


Figure 4.5: Modigraphs for the moderating effect of tax training on electronic tax payment and tax compliance tax invoice management system

Table 4.13: Moderating effect of the relationship between tax modernization and tax compliance

Items	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	.186	.037		4.982	.000
LTIM	.187	.053	.172	3.539	.000
LETR	.209	.052	.186	3.990	.000
LETP	.112	.046	.103	2.425	.016
LTT	.175	.035	.207	5.039	.000
TIMTT	.068	.025	.116	2.698	.007
ERTTT	.053	.024	.094	2.243	.026
ETPTT	.455	.054	.367	8.351	.000
R Square	0.525				

Dependent Variable:

Source: Field Data, 2022

Table 4.14: Model Summary

Variables	Model 1 Coefficient	Model 2 Coefficient	Model 3 Coefficient	Model 4 Coefficient	Model 5 Coefficient
Constant	.121(.039)*	.024(.038)	.028 (0.037)	.044 (.037)	.186 (0.037)*
LTIM	.286(.063)*	.204(.059) *	.267(0.059) *	.247 (.058) *	.187 (.053)*
LETR	.352(.064)*	.322(.060) *	.290 (0.058) *	.294 (.057) *	.209 (.052)*
LETP	.145(.058)*	.150(.054) *	.136(0.052) *	.131 (.051) *	.112 (.046)*
LTT		.276(.039) *	.257(0.038) *	.253 (.037) *	.175 (.035)*
TIMTT			.124(0.026) *	.090 (.028) *	.068 (.025)*
ERTTT				.075 (.026) *	.053 (.024)*
ETPTT					.455 (.054)*
Model Summary Statistics					
R Square - R ²	0.334	0.432	0.473	0.488	0.525
Δ in R ²	-				
Significance	0.000	0.000	0.000	0.000	0.000
*Significant at 0.05 level (2-tailed);					
LTIM: Tax Invoice Management System, LETR: Electronic Tax Returns, LETP: Electronic Tax Payment, LTC: Tax Compliance					

Table 4. 2: Hypothesis summary

Hypothesis		Beta values	P values	Decision
H0 ₁	Tax invoice management system has no significant effect of tax compliance among the small and medium enterprises in Nakuru County.	0.286	0.000	Reject
H0 ₂	Electronic tax payment has no significant effect on tax compliance among the small and medium enterprises in Nakuru County.	0.352	0.000	Reject
H0 ₃	Electronic tax returns have no significant effect on tax compliance among the small and medium enterprises in Nakuru County.	0.145	0.013	Reject
H0 _{4a}	Tax training does not moderate the relationship between Tax invoice management system and tax compliance among small and medium enterprises in Nakuru County, Kenya.	.068	0.007	Reject
H0 _{4b}	Tax training does not moderate the relationship between Tax invoice management system and tax compliance among small and medium enterprises in Nakuru County, Kenya.	.053	0.026	Reject
H0 _{4c}	Tax training does not moderate the relationship between Tax invoice management system and tax compliance among small and medium enterprises in Nakuru County, Kenya.	.455	0.000	Reject

Source: Field Data, 2022

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.0 Overview

This chapter provides a synopsis of the results, analysis, and conclusions and suggestions based on the findings.

5.1 Summary of Findings

5.1.1 Tax Invoice Management System and Tax Compliance

The regression results show that the cost of buying, installation and maintenance of ETR machines is too high for small traders. Earlier, Omweri and Bernard (2010) has stated that these ETR has assisted in cutting costs that the business used to incur in processing VAT as they are cheap to buy, install, use and maintain. Also, it was shown that tax invoice management system is fully compatible with ETR machines and other businesses ICT systems. In addition, it was shown that validations and authentications of tax invoices at trader tills is transmitted for billing in real time. The findings also showed that number of transactions that an ETR can perform per unit times has influence on level of adoption of ETR machines. This is likely to lead to improved compliance as opined by Muhammed and Tesafa (2015) that when a VAT registered taxpayers' increases the use of ETRs machines in his or her sales transaction, the compliance attitude would increase.

The study further sought to establish the relationship between the tax invoice management system and tax compliance. Both the regression and correlations analysis confirmed that tax invoice management system significantly affect the level of tax compliance among the SMEs in Nakuru County as show by the strong and significant positive correlation coefficient between the two variables accompanied by a positive

beta coefficient for tax invoice management system. Similar findings were observed by Kiprotich, *et. el* (2012) and Chege, *et el* (2015) who concluded that use of ETR has a significant impact on VAT compliance in Kenya. However, these studies did not explain the direction of the relationship. They did not set whether it was positive or negative impact, thus the major difference in findings between the study and this study.

5.1.2 Electronic Returns and Tax Compliance

The regression results show that making returns online using iTax is efficient. Also, it was shown that making returns using iTax system is reliable and accurate. This could explain why Obert, Kotsai, Tendai and Desderio (2018) stated that electronic filing has significantly increased the ease of doing business. Also, the results showed that the Validity of origin legitimate of the income can be determined while making the online returns. In addition, it was established that making returns online saves on cost, time and human resource. Also, through iTax, taxpayers can make returns in comfort of my office/home. This agrees with a study conducted by Nyaegah (2018) whose results indicated that 76% attributed use of iTax as being convenient and easy to file their returns and recommended on the use of iTax as a model of meeting tax obligation on time.

The study further did both correlation and regression analysis where sought correlations analysis confirmed that electronic tax returns significantly affect the level of tax compliance among the SMEs in Nakuru County as show by the strong and significant positive correlation coefficient between the two variables accompanied by a significant positive beta coefficient for electronic tax returns. Muita (2010) found that for e-filing to effectively take off in Kenya skills, infrastructure and a conducive business environment are needed.

5.1.3 Electronic payment and Tax Compliance

The results shows that Printing KRA payment acknowledgement receipt using iTax is simple and fast. Also, it was shown that Use of Mpesa pay bill services to taxes has made it easy and fast to remit taxes to KRA. In addition, it was shown that Mobile banking is an efficient, reliable, cost effective and fast method of paying taxes. The results further shows that use of KRA M-app has made tax payment easy and fast. Lastly, it was shown that majority of taxpayers embraced iTax system for tax remittances. The correlation analysis found an insignificant that electronic tax payment has insignificant effect on the level of tax compliance among the SMEs in Nakuru County. This explains why study by Nyongesa (2014) found that it was not clear how the revenue collection would be influenced by e-payment. However, the findings contradict the findings by Okiro (2015) who said that increase in revenue collection was attributed to the introduction and usage of the e-payment services in the Nairobi County.

5.1.4 Tax Training, Tax Modernisation Program and Tax Compliance

The regression results showed that the education received by the taxpayers has supported them to understand different tax modernization programs. Also, it was shown that the education received by the taxpayers is relevant for their businesses. The respondents further indicated that whenever there is a new innovation, they are informed through tax seminars and workshops. These findings explain why Mwangi and Macharia (2021) concluded that it is important and significant to include the element of taxpayer education by use of social media. The coefficient of determination showed the variation in tax compliance increased from 7.6% to 15.7 % when moderated by use of the tax training, thus tax training brought about 0.3% increase in the impact of the tax modernisation program to tax compliance. The importance of tax training in

tax compliance was emphasised by Mansur, Prasetyo, Beatrice and Hernando (2021) recommended that tax training be done to SMEs as it affects SME taxpayer compliance. Specifically, the finding shows that when tax training is used as moderating variable, the contribution of tax invoice management system to tax compliance improved from 0.242 units to 0.246 units per unit change in unit of tax invoice management system. In addition, when moderated using tax training, the contribution of electronic tax returns on tax compliance would increase from 0.116 units to 0.117 units per unit increase electronic tax returns. Lastly, the contribution by electronic tax payment improves from -0.030 to 0.009 units when moderated by tax training, however, the increase was found to be insignificant. These findings agree with earlier finding by Sritharan and Salawati (2019) who found that tax knowledge has moderating effect on the relationship between individual factor and compliance.

5.2 Conclusion

Both the regression analysis confirmed that tax invoice management system significantly affect the level of tax compliance among the SMEs in Nakuru County as show by the strong and significant positive correlation coefficient between the two variables accompanied by a positive beta coefficient for tax invoice management system. This study concludes that adoption of tax invoice management system the SMEs is likely to lead to hire performance of tax revenue as KRA will be able to track down the tax avoidance schemes.

Also, this study established that electronic tax returns significantly affect the level of tax compliance among the SMEs in Nakuru County as show by positive coefficient between the two variables. This study therefore concluded that enforcing electronic tax returns would lead to higher level of tax compliance among the SMEs.

In addition, the regression results showed that electronic tax payment significantly affects the level of tax compliance among the SMEs in Nakuru County. This was confirmed by the significant positive beta coefficient for electronic tax payment. Based on these findings, it was concluded that adoption of electronic payment methods would boost level of tax compliance among the SMEs in Nakuru County.

The study determined the moderating effect of tax training on the relationship between tax modernisation program and tax compliance among the SMEs in Nakuru County. The study showed that tax education received by the taxpayers has supported the taxpayers to understand different tax modernization programs. This study concluded that moderating variable, tax training was found to significantly moderate the relationship between the tax modernisation program and tax compliance among the SMEs in Nakuru County.

5.3 Recommendation

5.3.1 Policy recommendation

The results also showed that Printing KRA payment acknowledgement receipt using iTax is not simple and fast. The study findings further indicated that KRA do not distribute magazines to taxpayers explaining the working of new technologies frequently. Based on These findings, this study recommends that KRA through its tax education division distribute printed magazines and articles with details of different tax procedures and innovation so as to enable the tax payers to refer whenever need arises. This could be done to supplement the tax training workshops and seminars.

To foster tax compliance among Small and Medium Enterprises (SMEs), a holistic policy approach is essential. Governments should prioritize the development and implementation of targeted tax training programs tailored to the specific needs of

SMEs, encompassing both the technical aspects of modern tax systems and the benefits of compliance. Concurrently, incentivizing participation in these training initiatives through tax credits or deductions can stimulate SME engagement. Additionally, establishing accessible support mechanisms, such as dedicated helplines and online resources, is crucial to assist SMEs during their transition to modern tax systems. This comprehensive strategy, comprising training, incentives, and support, empowers SMEs to effectively harness the potential of tax modernization programs, ultimately leading to improved tax compliance and the strengthening of the overall tax base.

5.3.2 Management recommendation

From a managerial perspective, it is imperative for businesses, especially Small and Medium Enterprises (SMEs), to proactively invest in tax training programs for their employees. Managers should allocate resources to provide comprehensive tax training that not only imparts the technical knowledge required for utilizing modern tax systems but also emphasizes the importance of tax compliance. Additionally, they should encourage participation in these training initiatives and incentivize employees who excel in this area. Furthermore, managers should closely monitor the implementation of tax modernization programs within their organizations, ensuring that they are effectively integrated into daily operations. By fostering a culture of tax awareness and compliance through training and diligent oversight, SMEs can maximize the benefits of these systems and minimize the risk of errors or non-compliance, ultimately contributing to the long-term success and sustainability of the business.

Also, this study recommends that SME owners get basic training on simple record keeping which will not only enhance their level with compliance with tax laws, but also improve on the operational efficiency of their SMEs.

5.3.3 Theoretical recommendation

Economic Deterrence Theory suggests that in the context of tax compliance among Small and Medium Enterprises (SMEs), the moderating role of tax training can significantly influence the effectiveness of tax invoice management systems, electronic tax returns, and electronic tax payment mechanisms. It recommends that SMEs should prioritize comprehensive tax training programs for their staff, as a well-trained workforce is more likely to understand the benefits and consequences of tax compliance, including the advantages offered by modern tax management systems and electronic tax processes. This understanding, in turn, can enhance the perceived costs and benefits of compliance, aligning them with the principles of economic deterrence. By investing in tax education, SMEs can empower their employees to navigate the complexities of taxation and utilize electronic tools efficiently, ultimately promoting greater tax compliance and reducing the likelihood of tax.

The theory of Technological Determinism suggests that technological advancements can shape and influence societal changes. This theory recommends that the adoption of these technological tools should be accompanied by robust tax training initiatives. This training should not only focus on the technical aspects of utilizing these technologies but also emphasize the understanding of tax laws, compliance obligations, and ethical considerations. By doing so, SMEs can harness the full potential of these technologies to streamline tax-related processes, enhance accuracy, and reduce administrative burdens, ultimately leading to improved tax compliance. Furthermore, the theory suggests that policymakers and tax authorities should actively promote the integration of tax training with technological advancements, recognizing that training can play a crucial moderating role in ensuring that technology adoption translates into higher levels of tax compliance among SMEs.

5.4 Limitation and Areas for Further Studies

The study's findings may primarily apply to Nakuru County and might not be easily extrapolated to other regions or countries. The unique economic, social, and regulatory context of Nakuru County may limit the broader applicability of the research. Moreover, tax compliance and the impact of tax modernization programs can vary over time. The study's findings may be time-sensitive and may not account for long-term trends or future changes in tax policies and practices. Additionally, reliance on self-reported data from SMEs may introduce response bias, as businesses might be hesitant to admit non-compliance. Future research could consider employing external audits or third-party data sources to validate compliance levels. The study recommends conducting a comparative study across multiple counties or regions within Kenya could reveal regional variations in tax compliance and the effectiveness of tax training programs. This could lead to more nuanced policy recommendations.

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APPENDICES

Appendix I: Introduction Letter

Dear Respondent,

RE: PARTICIPATION IN DATA COLLECTION

I am a postgraduate student at Moi University undertaking a research project on “Effects of Tax modernization program on Tax compliance among small and medium enterprises in Nakuru County, Kenya.” Your business has been selected for this study and you have been selected to fill the questionnaire. Kindly respond to the questions in the attached questionnaire. The information provided will exclusively and solely be used for academic purposes and will be treated with utmost confidentiality it deserves. Upon request, you will be furnished with a copy of the final report.

Your cooperation will be highly appreciated.

Yours Faithfully,

Ibrahim Maina Kinuu

Appendix II: Questionnaire

This questionnaire has been designed to collect data and information pertaining to “Effect of Tax modernization program on Tax compliance among small and medium enterprises in Nakuru County, Kenya.” You are kindly requested to give honest responses to the questions below.

PART A: TAX COMPLIANCE

1. In a 5-point Likert scale where *1=very small extent, 2=small extent, 3=moderate extent, 4=great extent, and 5=very great extent*, what is your opinion on the following propositions regarding tax compliance by SMEs in Nakuru County?

TAX COMPLIANCE		1	2	3	4	5
i.	I always do correct tax self-assessment					
ii.	I mostly file my returns accurately					
iii.	I know how to file and pay taxes online					
iv.	Am registered on KRA iTax system					
v.	I have the correct tax obligations					

PART B: TAX INVOICE MANAGEMENT SYSTEM AND TAX COMPLIANCE

2. In a 5-point Likert scale where *1=very small extent, 2=small extent, 3=moderate extent, 4=great extent, and 5=very great extent*, what is your opinion on the following propositions regarding invoice management system by SMEs in Nakuru County?

TAX INVOICE MANAGEMENT SYSTEM		1	2	3	4	5
i.	The cost of buying, installation and maintenance of ETR machines is too high for small traders.					
ii.	Tax invoice management system is fully compatible with ETR machines and other businesses ICT systems					

iii.	Validations and authentications of tax invoices at trader tills is transmitted for billing in real time					
iv.	Number of transactions that an ETR can perform per unit times has influence on level of adoption of ETR machines					
v.	The TIMS is user friendly					

PART C: ELECTRONIC TAX RETURNS AND TAX COMPLIANCE

3. In a 5-point Likert scale where *1=very small extent, 2=small extent, 3=moderate extent, 4=great extent, and 5=very great extent*, how much would you agree with the following propositions regarding effect of electronic tax returns?

ELECTRONIC TAX RETURNS		1	2	3	4	5
i.	Making returns online using iTax is efficient and cost effective					
ii.	Making returns using iTax system is reliable and accurate					
iii.	validity of origin legitimate of the income can be determined while making the online returns					
iv.	Making returns online saves on cost, time and human resource					
v.	Through iTax, I can make returns in comfort of my office/home					

PART D: ELECTRONIC TAX PAYMENT AND TAX COMPLIANCE

4. In a 5-point Likert scale where *1=very small extent, 2=small extent, 3=moderate extent, 4=great extent, and 5=very great extent*, how much would you agree with the following propositions regarding the effect of effect of electronic tax payment?

ELECTRONIC TAX PAYMENT		1	2	3	4	5
i.	Printing KRA payment acknowledgement receipt using iTax is simple and fast.					
ii.	Use of Mpesa pay bill services to taxes has made it easy and fast to remit taxes to KRA					

iii.	Mobile banking is an efficient, reliable, cost effective and fast method of paying taxes.					
iv.	Use of KRA M-app has made tax payment easy and fast					
v.	Majority of taxpayers embraced iTax system for tax remittances.					


PART E: TAX TRAINING, TAX MODERNIZATION AND TAX COMPLIANCE

5. In a 5-point Likert scale where *1=very small extent, 2=small extent, 3=moderate extent, 4=great extent, and 5=very great extent*, how much would you agree with the following propositions regarding the tax training, tax modernization and tax compliance?

TAX TRAINING		1	2	3	4	5
i.	Tax education I receive has supported me to understand different tax modernization programs					
ii.	Whenever there is a new innovation, taxpayers are informed through tax seminars and workshops					
iii.	KRA frequently distribute magazines to taxpayers explaining the working of new technologies					
iv.	KRA always avail enough information concerning new technologies in their website, Social Media and Webinars/content videos.					
v.	Feedback on queries raised concerning implementation of new technologies is prompt					

THANK YOU FOR YOUR TIME

Appendix III: Introduction letter from University

 **KENYA REVENUE
AUTHORITY**
ISO 9001:2015 CERTIFIED

PUBLIC

KENYA SCHOOL OF REVENUE ADMINISTRATION

REF: KESRA/NBI/036

1st November 2022

TO: WHOM IT MAY CONCERN

Dear Sir/Madam,

**RE: REQUEST FOR ASSISTANCE TO IBRAHIM MAINA KINUU OF
REGISTRATION NO.: KESRA/105/0040/2020 UNDERTAKING MASTERS AT
KESRA**

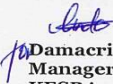
This is to confirm that the above named is a student at Kenya School of Revenue Administration (KESRA) Nairobi Campus pursuing Masters in Tax and Customs Administration.


The named student is undertaking Research on TOPIC: *“The Moderating Role of Tax Training in the Relationship between Tax modernization programs and Tax compliance among small and medium enterprises in Nakuru County, Kenya.”*

The purpose of this letter is to request for your kind facilitation and authorization in enabling the student progress in his research project by allowing access to any relevant information and/or conduct interviews which are relevant to the project.

Your support to the student in this regard will be highly appreciated.


Thank you.



Damacrine Masira
Manager Academic Research,
KESRA



Tulibe Ushuru, Tujitegemee!


Appendix IV: NACOSTI permit


 REPUBLIC OF KENYA


NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: **597299** Date of Issue: **06/December/2022**


RESEARCH LICENSE




This is to Certify that Mr. IBRAHIM KINUU of Moi University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nakuru on the topic: THE MODERATING ROLE OF TAX TRAINING IN THE RELATIONSHIP BETWEEN TAX MODERNIZATION PROGRAMS AND TAX COMPLIANCE AMONG SMALL AND MEDIUM ENTERPRISES IN NAKURU COUNTY, KENYA for the period ending : 06/December/2023.

License No: **NACOSTI/P/22/22495**

597299
 Applicant Identification Number


 Director General
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

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See overleaf for conditions

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013 (Rev. 2014)
 Legal Notice No. 108: The Science, Technology and Innovation (Research Licensing) Regulations, 2014

The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was established under the Science, Technology and Innovation Act 2013 (Revised 2014) herein after referred to as the Act. The objective of the Commission shall be to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.

CONDITIONS OF THE RESEARCH LICENSE

1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way:
 - i. Endanger national security
 - ii. Adversely affect the lives of Kenyans
 - iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
 - iv. Result in exploitation of intellectual property rights of communities in Kenya
 - v. Adversely affect the environment
 - vi. Adversely affect the rights of communities
 - vii. Endanger public safety and national cohesion
 - viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
4. The license any rights thereunder are non-transferable
5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
6. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research.
7. Excavation, filming, movement, and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
8. The License does not give authority to transfer research materials.
9. The Commission may monitor and evaluate the licensed research project for the purpose of assessing and evaluating compliance with the conditions of the License.
10. The Licensee shall submit one hard copy, and upload a soft copy of their final report (thesis) onto a platform designated by the Commission within one year of completion of the research.
11. The Commission reserves the right to modify the conditions of the License including cancellation without prior notice.
12. Research, findings and information regarding research systems shall be stored or disseminated, utilized or applied in such a manner as may be prescribed by the Commission from time to time.
13. The Licensee shall disclose to the Commission, the relevant Institutional Scientific and Ethical Review Committee, and the relevant national agencies any inventions and discoveries that are of National strategic importance.
14. The Commission shall have powers to acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country.
15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

National Commission for Science, Technology and
 Innovation(NACOSTI),
 Off Waiyaki Way, Upper Kabete,
 P. O. Box 30623 - 00100 Nairobi, KENYA
 Telephone: 020 4007000, 0713788787, 0735404245
 E-mail: dg@nacosti.go.ke
 Website: www.nacosti.go.ke

Appendix V: SPSS Output

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LETP, LETR, LTIM ^b	.	Enter

a. Dependent Variable: LTC

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.578 ^a	.334	.327	.053665907626350

a. Predictors: (Constant), LETP, LETR, LTIM

ANOVA^a

Model		Sum of Squares	d.f.	Mean Square	F	Sig.
1	Regression	.424	3	.141	49.074	.000 ^b
	Residual	.847	294	.003		
	Total	1.271	297			

a. Dependent Variable: LTC

b. Predictors: (Constant), LETP, LETR, LTIM

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.121	.039		3.106	.002
	LTIM	.286	.063	.264	4.567	.000
	LETR	.352	.064	.314	5.473	.000
	LETP	.145	.058	.134	2.496	.013

a. Dependent Variable: LTC

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LTT, LETP, LETR, LTIM ^b	.	Enter

a. Dependent Variable: LTC

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.657 ^a	.432	.424	.04963073832840

3

a. Predictors: (Constant), LTT, LETP, LETR, LTIM

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.024	.038		.632	.528
	LTIM	.204	.059	.188	3.449	.001
	LETR	.322	.060	.287	5.396	.000
	LETP	.150	.054	.139	2.795	.006
	LTT	.276	.039	.327	7.124	.000

a. Dependent Variable: LTC

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	TIMTT, LETP, LTT, LETR, LTIM ^b	.	Enter

a. Dependent Variable: LTC

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.688 ^a	.473	.464	.04788089226064

3

a. Predictors: (Constant), TIMTT, LETP, LTT, LETR, LTIM

ANOVA^a

Model		Sum of Squares	d.f.	Mean Square	F	Sig.
1	Regression	.601	5	.120	52.456	.000 ^b
	Residual	.669	292	.002		
	Total	1.271	297			

a. Dependent Variable: LTC

b. Predictors: (Constant), TIMTT, LETP, LTT, LETR, LTIM

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.028	.037		.769	.443
	LTIM	.267	.059	.245	4.554	.000
	LETR	.290	.058	.258	5.004	.000
	LETP	.136	.052	.125	2.617	.009
	LTT	.257	.038	.304	6.833	.000
	TIMTT	.124	.026	.209	4.776	.000

a. Dependent Variable: LTC

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ERTTT, LETR, LTT, LETP, TIMTT, LTIM ^b		Enter

a. Dependent Variable: LTC

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.698 ^a	.488	.477	.04728898232065
				4

a. Predictors: (Constant), ERTTT, LETR, LTT, LETP, TIMTT, LTIM

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	.044	.037		1.185	.237
	LTIM	.247	.058	.227	4.235	.000
	LETR	.294	.057	.262	5.144	.000
	LETP	.131	.051	.122	2.568	.011
	LTT	.253	.037	.299	6.805	.000
	TIMTT	.090	.028	.152	3.217	.001
	ERTTT	.075	.026	.134	2.891	.004

a. Dependent Variable: LTC

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ETPTT, TIMTT, LETP, LTT, ERTTT, LETR, LTIM ^b		Enter

a. Dependent Variable: LTC

b. All requested variables entered.

ANOVA^a

Model		Sum of Squares	d.f	Mean Square	F	Sig.
1	Regression	.746	7	.107	58.924	.000 ^b
	Residual	.525	290	.002		
	Total	1.271	297			

a. Dependent Variable: LTC

b. Predictors: (Constant), ETPTT, TIMTT, LETP, LTT, ERTTT, LETR, LTIM

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	.186	.037		4.982	.000
	LTIM	.187	.053	.172	3.539	.000
	LETR	.209	.052	.186	3.990	.000
	LETP	.112	.046	.103	2.425	.016
	LTT	.175	.035	.207	5.039	.000

TIMTT	.068	.025	.116	2.698	.007
ERTTT	.053	.024	.094	2.243	.026
ETPTT	.455	.054	.367	8.351	.000

a. Dependent Variable: LTC

		Coefficients ^a					Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF
		B	Std. Error	Beta				
1	(Constant)	.024	.038		.632	.528		
	LTIM	.204	.059	.188	3.449	.001	.654	1.529
	LETR	.322	.060	.287	5.396	.000	.687	1.455
	LETP	.150	.054	.139	2.795	.006	.787	1.271
	LTT	.276	.039	.327	7.124	.000	.923	1.084

a. Dependent Variable: LTC

Collinearity Diagnostics^a

	No. of Items	Cronbach Alpha Coefficients	KMO and Bartlett's Test	Decision rule
Tax compliance	5	0.746	0.718	Accept
Tax invoice management	5	0.713	0.746	Accept
Electronic Tax Register	5	0.740	0.774	Accept
Electronic Tax Payment	5	0.764	0.728	Accept
Tax Training	5	0.721	0.781	Accept

Model	Dimension	Eigenvalue	Condition		Variance Proportions			
			Index	(Constant)	LTIM	LETR	LETP	LTT
1	1	4.970	1.000	.00	.00	.00	.00	.00
	2	.014	18.610	.00	.02	.03	.08	.87
	3	.007	27.590	.02	.27	.20	.65	.02
	4	.005	31.411	.22	.64	.37	.09	.01
	5	.004	34.167	.76	.08	.40	.18	.11

a. Dependent Variable: LTC

Residuals Statistics ^a					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.386283546686173	.646494686603546	.579795643318426	.042994437079062	298
Residual	-.168334081768990	.110987521708012	.000000000000000	.049295391661382	298
Std. Predicted Value	-4.501	1.551	.000	1.000	298
Std. Residual	-3.392	2.236	.000	.993	298

a. Dependent Variable: LTC

		LTC	LTIM	LETR	LETP	LTT
LTC	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	298				
LTIM	Pearson Correlation	.481**	1			
	Sig. (2-tailed)	.000				
	N	298	298			
LETR	Pearson Correlation	.503**	.520**	1		
	Sig. (2-tailed)	.000	.000			
	N	298	298	298		
LETP	Pearson Correlation	.365**	.410**	.394**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	298	298	298	298	
LTT	Pearson Correlation	.449**	.269**	.198**	.113	1
	Sig. (2-tailed)	.000	.000	.001	.051	
	N	298	298	298	298	298

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

White Test for Heteroskedasticity^{a,b,c}

Chi-Square	d.f.	Sig.
16.822	20	.664

a. Dependent variable: TC

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.