Deterrent Factors Influencing Value Added Tax Compliance in Kisumu County, Kenya

Shami Mataga Korongo [1] and Felix Kilonzi [2]

[1]Jomo Kenyatta University of Agriculture and Technology, Kenya
[2]Kenya School of Revenue Administration/Jomo Kenyatta University of Agriculture and Technology

E-mail: tagashami@gmail.com

Abstract

This study was set out to establish the influence of deterrent factors on value added tax compliance in Kisumu County, Kenya. The specific objectives revolved around tax audits; tax rate and compliance checks and how they influence value added tax compliance in Kisumu County, Kenya. The economic deterrence theory and the Fiscal and Social Psychology Theory provided anchorage to the study. Descriptive approach was adopted targeting 430 businesses in Kisumu town. Stratified random sampling was used to select 129 respondents from these firms. Questionnaire was used to gather primary data that was analyzed through descriptive (means and standard deviations) and inferential statistics (correlation and multiple regression analysis). Tables and figures were used to present the analyzed findings. It was established that compliance checks have the greatest significant contribution towards VAT compliance ($\beta=0.058$ & $p<0.05$) followed by tax rate ($\beta= -0.056$ & $p<0.05$) and lastly tax audits ($\beta=0.043$ & $p<0.05$). The study concludes that deterrent factors have significant influence on VAT. The study recommends that senior tax auditors at KRA should increase the audit rate and the probability of audit detection to drive VAT compliance among tax payers. The management team at KRA should consider other innovative strategies like expansion of the tax base so that more prospective and potential taxpayers are brought in.

Keywords: deterrent factors, value added tax compliance, tax audits, tax rate and compliance checks

1. Introduction

Having been introduced for the first time in France in 1954, value added tax (VAT) has been a major contributor of tax revenue for governments around the world. Although there may exist variations in the reasons informing adoption of VAT system at the country level, it is generally argued that existence of a well-designed VAT generates more revenue as compared to any other form of tax (Gangl, Hartl, Hofmann & Kirchler, 2019). Low compliance levels, especially is a major challenge both of VAT system both in developed and less developed economies around the world. For instance, there

was an increase in VAT lost through noncompliance in 2005/06 standing at £12.4 billion (Smith, 2007). In Italy, noncompliance with VAT is estimated at 40% while in United Kingdom and France, the rate of non-compliance is estimated at 3%. Both developing and less developed economies are facing the same issues of VAT non-compliance. For instance, in a study conducted by Global Financial Integrity, it was noted that USD 213 billion is lost from tax noncompliance in India (KPMG, 2011). The same case applies to Bangladesh, where USD 2.8 Billion is estimated to be lost through noncompliance.

Since its introduction in 1990 in Kenya, VAT has faced challenges of compliance, especially among SMEs just like in other countries around the world. Feld and Frey (2006) shared that compliance has remained a concern among revenue collection agencies since the old days. As such, Van-Rooij (2016) documents that any effort to come up with ways to tackling and exploring patterns of this vice is of great concern among different countries around the world. The logic behind VAT compliance can be viewed from different dimensions chief being law enforcement concerns. As a challenge of law enforcement, it follows that deterrence factors are central in shaping compliance behavior among the taxpayers. Deterrence factors are measures put in place to prevent taxpayers from evading and avoiding tax which may inform their compliance behavior. Despite their central role in transforming compliance behavior of the taxpayers, little focus has been registered on these deterrent factors (Devos, 2013). Thus, the focus of this inquiry is on exploring how deterrent factors can contribute towards tax compliance, particularly VAT.

1.1.1 Global perspective on Deterrent Factors Influencing Value Added Tax Compliance

A study done among taxpayers in the United States (US) by Beer, Kasper, Kirchler and Erard (2020) shared that tax audit are significant deterrent factor influencing compliance behavior. Among the SMEs in Palestine, Alkhatib, Abdul-Jabbar and Marimuthu (2018) expounded on deterrent factors to include probability of detection, tax penalty and tax rates. Kuchumova (2017) provided tax audit as a measure of deterrence towards tax compliance. Dularif, Sutrisno and Saraswati (2019) gave the indicators of deterrence approach in tax compliance to include tax audit, tax rate and tax penalty. However, Dularif, Sutrisno and Saraswati (2019) failed to establish a significant role played by penalties and tax audit in preventing tax noncompliance.

The deterrent factors covered by Abuamria (2019) include penalty rate and probability of detection. A study done in Israel by Ariel (2012) did not establish any significant link between deterrence and compliance. Pomeranz (2015) used a case of 400,000 Chilean firms shared that deterrence is the best approach in shaping compliance of the taxpayers. A study conducted in Israel by Amir, Lazar and Levi (2018) shared

that there are whistleblowing mechanisms as deterrence means aimed at driving compliance behavior among the taxpayers. Amir et al. (2018) further argued that deterrence increases the amount of tax revenues collected for the government.

In Venezuela, Ortega and Sanguinetti (2013) shared that enforcement is a similar and related term with the concept of deterrence. Another study conducted among 240 small and medium businesses (SME) in Bangladesh by Faridy, Freudenberg and Sarker (2016) used penalties and audit as deterrent factors relevant in driving compliance behavior among the taxpayers. More particular, it was noted that likelihood of tax audits and penalties as well as promotion of successful audit prosecution greatly influence the compliance behavior of the taxpayers.

1.1.2 Regional perspective on Deterrent Factors Influencing Value Added Tax Compliance

The study by Merima (2013) focused on Tanzania, Uganda and South Africa besides Kenya using 2011/12 Afro-barometer survey data; it was shown that deterrence contributes towards growth in VAT tax revenue collected to the government. Most countries in Africa have realized and appreciated the role played by deterrence in VAT compliance. In Tanzania for instance, the key deterrent factors include interests, penalties and offences. Interests are incurred by the taxpayers when they underestimate due tax or fail to pay tax completely. Penalties are charged whenever taxpayers have failed to maintain relevant documents, failed to file tax returns or giving of misleading/false statements as well as for abetting and aiding. On the other hand, when the taxpayers in Tanzania have contravened the provisions of the tax laws, this will amount to commitment of offences. It is the Tax Administration Act, 2015 that lays down specific actions in response to offences committed by the taxpayers (Tanzania Revenue Authority [TRA], 2020).

1.1.3 Local perspective on Deterrent Factors Influencing Value Added Tax Compliance

In Kenya, VAT on products supplied in Kenya is collected at designed points by companies that are registered for that purpose and these act as agents for the government. In order to be registered for VAT purpose, the agent should generate revenue of Kshs. 5 Million or more in a year. There are incidences when voluntary registration is granted to a person who wants to be registered for VAT purpose even when Kshs 5 Million threshold has not been attained (KRA, 2013). Once a taxpayer has been registered for VAT purpose, he/she is required to show accountability of the charged VAT on the taxable supplies through online tax returns followed by payment of the VAT that is due. There are three key tax rates as far as VAT is concerned: 0% for products that are zero rated for instance the products manufactured for export purpose, 8% for most petroleum related products and 16% which is the general rate for other categories of services and goods.

The study by Gitonga and Memba (2018) focused on key factors determining compliance with taxes among public transport savings and credit cooperatives (SACCOs). Notable in this study was the fact that tax deterrence sanctions inform the compliance behavior of the taxpayers. These sanctions could cover the modern interests and penalties as well as offences at the Kenya Revenue Authority (KRA). In another study by Kipkoech and Joel (2016) the focus was on economic factors that inform tax compliance with focus on limited liability companies in Eldoret. The key variables of interest in this study included tax rates, tax audits, levels of actually generated income and penalties and fines. Noted by this study was the fact that tax audits play a greater role in influencing compliance behavior in Kenya followed by tax rates and penalties and fines. The concerns raised by the study were the need for tax audit findings to be availed to taxpayers while effectively administering fines and penalties (Kipkoech & Joel, 2016).

The role that tax audits play in collection of taxes was explored by Nyakamba (2013), arguing that increasing tax audits raise the level of tax revenues collected by the KRA. Recommended by this study was the need for tax audit reports to be submitted to the public while establishing standardized procedures of selecting the firms where random audits are done. Ndumia (2015) covered enforcement measures in place of deterrence factors and sought to establish their relationship with VAT. The specific enforcement measures that were covered by this study include audit rate, penalties and criminal sanctions. Revealed by this study was the fact that enforcement measures like imposition of penalties, compliance checks, audit rates and criminal sanctions determine VAT revenue in Kenya. The need for more VAT audits and imposition for penalties on noncompliance was suggested in this study.

In Kisumu, the main activities that attract VAT especially among the enterprises include eateries, groceries, hardwares, furniture stores as well as agrovets. Despite the fact that these businesses have been mushrooming in Kisumu, VAT compliance among them has however remained a challenge. For instance, in 2020, from the targeted VAT of Kshs. 0.9 million among these enterprises, only 0.2 million was collected representing a shortfall of about 78% (KRA, 2021). This situation has denied the government the revenue that is needed to support economic growth prospects. The literature reviewed from a global, regional and local perspective point out the central role of deterrent factors in driving tax compliance behavior of the taxpayers. However, there exists some controversies, with some studies pointing out significant role of deterrence on tax compliance while there are other studies yielding contradicting findings of insignificant relationship. Thus, this study sought to provide an exact nexus between deterrent factors and tax compliance.

1.2 Statement of the Problem

Value added tax compliance has remained a challenge due to high level of informality among majority of the enterprises. For instance, there have been VAT short falls between the targeted figures and actual figures standing at Kshs. 6.9 billion, Kshs. 10.8 Billion, Kshs 22.6 billion and Kshs 17.9 billion for the financial year 2017/2018, 2018/2019, 2019/2020 and 2020/2021 respectively (KRA, 2020 & National Treasury, 2021). This trend in VAT is not encouraging since it constrains the ability of the government to fund its operations. It is important to critically analyze the key factors contributing towards this trend in VAT, and whether low compliance could be one of the factors contributing towards this trend. Best practices from other developed countries including the European Union members strongly advocate for use of deterrence factors to counter tax compliance (Alkhatib, Abdul-Jabbar & Marimuthu, 2018). Thus, the study seeks to understand how deterrence factors may contribute towards VAT compliance to bridge VAT gaps and avail adequate funds for the government to finance economic activities.

The available studies include Alkhatib, Abdul-Jabbar and Marimuthu (2018) who explored the effect of deterrence factors on VAT evasion among Palestinian SMEs where it was shown that probability of detection and tax penalty were found to be negatively significant, while tax rate was positively significant in relation to VAT evasion. Dularif, Sutrisno and Saraswati (2019) was interested in establishing whether deterrence approach was effective in combating VAT evasion where it was noted that decreasing tax rate is an effective tool in combating tax evasion. Abuamria (2019) looked at the effect of deterrence factors on discourage shadow economy level and VAT evasion and two major variables that can possibly influence the shadow economy level noted include, the probability of detection and secondly, the penalty rate. Gitonga and Memba (2018) did an assessment of the determinants of VAT compliance by public transport savings and credit cooperative societies in Kenya where the findings revealed tax deterrence sanction, tax compliance costs and tax knowledge levels had a statistically significant relationship with tax compliance levels by public transport SACCOs in Kenya. Ndumia (2015) looked at the effect of enforcement measures on value added tax revenue for firms in the large corporate taxpayer category in Kenya where it was shown that enforcement measures such as audit rate, imposition of penalties, criminal sanctions and another determinant of VAT revenue.

The reviewed studies create gaps since some were conducted in SMEs operating in other countries like Palestine and not in Kenya. Other studies were conducted shadow economy and tax evasion as dependent variable and not VAT compliance. This creates gaps which the present study sought

to fill by establishing the influence of deterrent factors on value added tax compliance in Kisumu County, Kenya

1.3 Objectives of the Study

The study had general and specific objectives as under:

1.3.1 General Objective

The general objective of the study was to establish the influence of deterrent factors on value added tax compliance in Kisumu County, Kenya

1.3.2 Specific Objectives

The study was guided by the following specific objectives:

To investigate the influence of tax audits on value added tax compliance in Kisumu County, Kenya

To determine the influence of tax rate on value added tax compliance in Kisumu County, Kenya

To establish the influence of compliance checks on value added tax compliance in Kisumu County, Kenya

1.4 Research Questions

The study sought to provide answers to the following research questions:

What is the influence of tax audits on value added tax compliance in Kisumu County, Kenya?

What is the influence of tax rate on value added tax compliance in Kisumu County, Kenya?

What is the influence of compliance checks on value added tax compliance in Kisumu County, Kenya?

1.5 Justification of the Study

The findings of the study may be important to the following parties:

1.5.1 The management of the enterprises

The management of the enterprises would get to understand the need to adhere to deterrent factors as they comply with VAT through timely filling and payment. This would go a long way towards increasing the amount of VAT collected for the government.

1.5.2 The Management at KRA

The study would recommend the best practices of strengthening deterrence measures at KRA which may contribute towards VAT compliance.

1.5.3 Policy Makers and Practitioners

The various policy makers at KRA and the respective SMEs in Kisumu would get to develop relevant policies in regard to adherence to deterrent factors and this may increase the VAT for the government.

1.5.4 Scholars and Researchers

The study would contribute towards the existing literature on deterrence and VAT compliance. This would allow future scholars to review literature of this study as they conduct similar studies.

1.6 Scope of the Study

The study focused on deterrent factors and value added tax compliance. More specifically, the study focused on tax audits, tax rate and compliance checks as they influence value

added tax compliance. The study focused on enterprises in Kisumu County, Kenya. Kisumu was selected because it was one the fast growing cities in Kenya attracting different enterprises which was the context of the present study. The study focused on use of primary data that was collected through questionnaire.

2. Literature review

This chapter is set out to provide a review of literature on informed by the theories, conceptual framework and empirical review. The critique of literature, summary and gaps are also indicated in the chapter.

2.2 Theoretical Review

A theoretical review focuses on the analysis of the theories that have implication on the study. This study was anchored on economic deterrence theory, the fiscal and social psychology theory and Neo-classical taxation theory

2.2.1 Economic Deterrence Theory

This theory was developed by Allingman and Sandmo (1972) and it assumes that rational taxpayers base their decisions purely on economic calculation. If they expect that costs of evasion are higher than benefits received as a result of it, they will comply. If the expected costs of evasion are lower than the expected benefits they have no incentive to be compliant. Therefore, it is enough to check taxpayers more frequently and impose more severe penalties to limit tax evasion. This approach, in its simplicity, seems to be very convincing. However, no tax administration has the capacity frequently to check all taxpayers and impose severe penalties. Rational taxpayers may well factor this into their calculations and choose to continue evading taxes. In addition, practice does not confirm the theory – there is much less tax evasion than the model would imply.

Tax penalties are just one of the many factors that drive taxpayer compliance. Other drivers include risk aversion, personal and social norms, opportunities, fairness and trust and economic factors (OECD, 2010). Reliance only on tax penalties is thus not effective. To achieve the best results, the knowledge of taxpayer behavior is critical, yet extremely complex. As is the relationship between tax penalties and tax compliance (OECD, 2010; Poppelwell et al., 2012). The theory states that taxpayer's behavior is dependent on factors such as complexity of the tax system, probability of receiving audit coverage, penalties for non-compliance, and tax rates among others (Allingham and Sandmo, 1972).

This implies a cost-benefit" approach whereby it is argued that some taxpayers weigh the benefits of successful evasion against the risk of detection and possible penalties. Consequently, when the likelihood of detection or penalties is high the likelihood of tax evasion is low and vice versa. There is evidence to support use of this theory by tax administrations in addressing non-compliance. For instance, Chauke and Sebola (2016) in their paper conclude that the deterrence

theory is the most applicable in municipalities and the South African Revenue Service revenue collection strategies as taxpayers do not pay taxes willingly but coerced. This study uses this theory to impose a deterrent measure on the taxpayer population by increasing the probability of detection in the event of tax evasion.

2.2.2 Fiscal Exchange Theory

The fiscal exchange theory suggests people's perception about the government may motivate compliance (Moore, 2004). For instance, if the citizens are happy with what they get directly from their taxes, they tend to be more compliant. However, if the tax system is perceived to be unfair, tax evasion may be justified by taxpayers as an attempt to get even with the government. There exists empirical evidence in support of this theory as pointed out by Nikiema (2016). Nikiema carried out a survey in 29 sub-Saharan African countries and concluded that individual's attitude towards paying tax was directly dependent on the quality of institutions.

Muralidharan et al., (2017) carried a similar study in India, and concluded that the low quality of education explained the annual tax cost of close to 1.5 billion. According to OECD (2004b), tax audits continue to play an important role in enhancing compliance for most revenue authorities. For instance, audit is the strategy that allows administrations to exercise effective sanctions against those on top of the compliance pyramid i.e. those that do not want to comply. In addition, besides having a corrective effect that encourages customers to move towards the bottom of the compliance pyramid, audit has a deterrent effect that encourages customers in their groups to be more compliant.

2.2.3 Neo-classical Taxation Theory

The neo-classical theory developed by Laffer and others is based on the assumption that the state is obligated to remove obstacles to free market competition because the market can and must regulate itself without external intervention; in addition, it can achieve economic equilibrium. Hence, this theory differs from the Keynesian one and assigns a rather passive role to state regulation of economic processes (Shah & Zahir, 2003). According to this theory, taxation policy should be developed under the same assumptions: taxes must be as small as possible and corporations should be granted significant tax exemptions (Meade, 2013). Otherwise, a high tax burden would hinder economic activity and restraint the investment policies of corporations, which would lead to a downfall in the production funds renewal and in an economic recession. A restricted taxation policy would allow the market to provide independently for fast development and would lead to a significant expansion of the taxation basis (Van-Parys & James, 2010).

2.3 Empirical Review

This section provides an empirical review of literature on the study variables.

2.3.1 Tax Audits and Value Added Tax Compliance

Mebratu (2016) undertook an inquiry with focus on tax audit and compliance. The context of the inquiry was Ethiopia. It emerged that probability of audit detection and compliance with tax were significantly connected with each other. Olatunji and Temitope (2018) analyzed the effects of tax audit on tax compliance in Ekiti state, Nigeria. The findings revealed that the multinomial logistic regression model fitting information was significance with the p-value of 0.040 which implies that the tax audit can influence the tax compliance. Also, the likelihood ratio tests of multinomial regression showed that tax accuracy and current returns have not been significantly affecting tax compliance, that tax law has effect on tax compliance while tax procedure has no effect on tax compliance during the study period. The study concluded that tax audit is yet to make any substantial effect on tax compliance.

Nurebo, Tarakegn and Gutu (2021) sought to establish the effect of tax audit on the taxpayers' compliance in Ethiopian. The study revealed that detection of noncompliance, probability of being audited and awareness of taxpayers are positive factors that are affecting compliance of taxpayers significantly. Whereas, changes in government policies, complexity of tax laws and weak and arbitrary penalty are negative factors that affecting compliance of taxpayers significantly. Nyakamba (2014) studied the effects of tax audit on revenue collection using a case of Kenya Revenue Authority. It was shown that the more tax audits conducted the more revenue collected in the audit and in the subsequent years as the companies are better informed.

2.3.2 Tax Rate and Value Added Tax Compliance

Mas'ud, Aliyu and Gambo (2014) appraised the link between tax rate and compliance within the context of Africa. A significant and inverse nexus was registered. Freire-Serén and Panadés (2013) appraised the link between an increase in rate of taxes and compliance and shared existence of a significant nexus. Mach (2018) did a study that focused on VAT rates and their impact on business and tax revenue ax rates have impact on business activity and on the volume of the tax revenue. This relation is generally known as the Laffer curve. In this article data on VAT rates and revenues in the Czech Republic between 2006—2015 are used to estimate the Laffer curve and to find the revenue maximizing tax rates. It is shown that the standard rate of VAT in the Czech Republic is behind the revenue maximizing rate and that decreasing the rate would help the taxpayer as well as the state budget.

Gitonga, Kyalo and Maina (2015) did a study on influence of tax rates on tax compliance in the informal sector in Kenya: Survey of Nyeri town. Majority of the respondents indicated that they tried their best to comply with all tax procedures. Results revealed that Majority of the respondents indicate that the taxes charged were too high. Tax rates had a significant relationship with tax compliance at 95% confidence level. The

study cited that tax rates were important predictors of tax compliance in the informal sector.

2.3.3 Compliance Checks and Value Added Tax Compliance

Gangl, Torgler, Kirchler and Hofmann (2014) did a study that focused on supervision relying on evidence from a field experiment in Austria. A field experiment was conducted on tax compliance, focusing on newly founded firms. As a novelty the effect of tax authorities' supervision on timely tax payments is examined. Interestingly, results show no positive overall effect of close supervision on tax compliance. Amadala (2020) noted that the in Kenya, taxpayer chosen for review under any of these processes is notified and given appropriate time to respond or facilitate the processes. The laws empower KRA to review tax returns for accuracy in the determination of taxes paid by each taxpayer. This may be done through returns review, comprehensive audits or investigations .The outcome of which may include additional assessments or in the case of fraud; prosecution of the offenders.

2.4 Conceptual Framework

The conceptual framework is used to illustrate the variables together with indicators and how they relate with each other.

Figure 2.1: Conceptual Framework

2.4.1 Tax Audits

Kircher (2008) stated that tax audit is the examination of an individual or organization's tax report by the relevant tax authorities in order to ascertain compliance with applicable tax laws and regulations of state. Ola (2001) stated that the process of tax audit involves tax returns that are selected for audit using some selection criteria. Thereafter, the underlying books and records of the taxpayers are examined critically to relate them to the tax return filed. Probability of detection implies the likelihood of detecting tax evasion behavior by the tax authorities through the use of its enforcement tools (Alstadsæter et al., 2017; Chau and Leung, 2009). According to the economic model, taxpayers attempt to obtain maximum benefits out of their compliance decision by comparing the benefits of accomplished tax evasion against the cost of detection and punishment.

2.4.2 Tax Rate

Tax rates have impact on business activity and on the volume of the tax revenue. After all the Value Added Tax (VAT) seizes part of the business income. The higher are the rates the bigger is the incentive to avoid or evade taxes or even to close the business at all. It can therefore be stated that there is the law of diminishing marginal tax revenues: with increasing tax rates the revenue grows less and less. This property of the relation between the rates and the revenue is generally known as the Laffer curve (Block, 2016).

2.4.3 Compliance Checks

The compliance checks measures that scrutinize the individuals and or companies declared income and their expenditure against their tax remittances (Amadala, 2020). The activity done during this time is tax reviews. The compliance checks may be done through tax returns review, comprehensive audits or investigations (KRA, 2017). The outcome may include additional assessments or in the case of fraud; prosecution of the offenders (KRA, 2017).

2.4.4 Value Added Tax Compliance

Verboon and Dijke (2007) shared that compliance with VAT can be reflected in timely filing and payment of taxes. Alm (1991) considered VAT compliance as the ability to report all the incomes of the taxpayers. It arises when a taxpayer files and declares all the tax dues to a revenue authority. Noncompliance with tax is a adverse to the economy as it deprives the government of the revenues needed to run operations.

2.5 Critique of the Literature Relevant to the Study

Mebratu (2016) showed that there is a strong association between probability of audit detection and the level of tax compliance. Alemu (2020) showed that probability of tax audit, and tax knowledge and education have positive effect on level of tax compliance. Olaoye and Ekundayo (2019) concluded that tax audit could engender tax compliance and remittance. Olatunji and Temitope (2018) revealed that tax audit can influence the tax compliance. Nurebo, Tarakegn and Gutu (2021) detection of noncompliance, probability of being audited and awareness of taxpayers are positive factors that are affecting compliance of taxpayers significantly. Nyakamba (2014) shared that the more tax audits conducted the more revenue collected in the audit and in the subsequent years as the companies are better informed.

Mas'ud, Aliyu and Gambo (2014) showed that there is significant negative correlation between tax rate and tax compliance and tax rate has a negative effect on tax compliance. Ali, Cecil and Knoblett (2001) noted that audit rate and penalty rate are both effective deterrents to noncompliance. Gitonga, Kyalo and Maina (2015) revealed that tax rates had a significant relationship with tax compliance at 95% confidence level. Swistak (2016) said that too punitive a tax regime is an important barrier to business formalization and increasing severity of tax penalties does not produce the intended results. Yunus and Ramli (2017) shows that tax penalties do have a significant effect on tax compliance behavior. Gemmell and Ratto (2018) suggest that differences in penalty information given to taxpayers and reductions in penalty rates both affect taxpayers stated intentions to comply (pay overdue tax and penalties) as predicted.

2.6 Summary of Literature

The economic deterrence theory, the fiscal and social psychology theory and Neo-classical taxation theory were

used to provide anchorage to the study. From the reviewed literature, the key issues that influence VAT compliance include probability of audit detection, tax audit, detection of noncompliance, probability of being audited and awareness of taxpayers, tax rate, close supervision and review of tax returns for accuracy. Based on the reviewed literature, descriptive survey and correlational designs were adopted in the present study and information was obtained from primary sources guided by questionnaire. The analysis was done through descriptive statistics like means and standard deviations as well as correlation and regression analysis as inferential statistics. Three key factors that were considered in the present study as far as VAT compliance is concerned include tax audits, tax rate and compliance checks.

2.7 Research Gaps

Mebratu (2016) used a case of Ethiopia and not Kenya. Nyakamba (2014) studied the effects of tax audit on revenue collection using a case of Kenya Revenue Authority and not at taxpayers' side. Freire-Serén and Panadés (2013) focused on overall tax compliance and not specifically VAT. Mach (2018) focused on business revenue as dependent variable and not compliance. Gitonga, Kyalo and Maina (2015) concentrated on Nyeri town and not Kisumu. Swistak (2016) used a case of South Africa and not in Kenya. Yunus and Ramli (2017) covered SMEs in Malaysia and not in Kenya. Gemmell and Ratto (2018) borrowed evidence from a New Zealand field experiment and not in Kenya. From the studies reviewed, none has strived to establish the factors influence VAT compliance especially in Kisumu where noncompliance rates are high and hence the justification for the present study.

3. Research methodology

The chapter covers the research design, target population and sample size as well as sampling procedures. The methods used for gathering data, associated procedures as well as the methods for analysis of the findings are also indicated in this chapter.

3.2 Research Design

Research design is the conceptual structure within which research is conducted. It constitutes the blueprint for the collection, measurement and analysis of data. Research design is needed because it facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible yielding maximal information with minimal expenditure of effort, time and money (Kothari, 2009). A research design is a plan for collecting and utilizing data so that desired information can be obtained as defined by Paul et al (2009). This study adopted a descriptive approach. A descriptive approach is an approach that describes a situation qualitatively as per Trevor, (2010). The study described the relationship between deterrent factors and VAT compliance.

3.3 Target Population

The population refers to the entire group of people, events, or things of interest that the researcher wishes to investigate (Kothari, 2009). The target population of the study was 430 enterprises in Kisumu town irrespective of whether they were registered or not registered for VAT purpose as categorized in Table 3.1.

Table 3.1: Target Population

3.4 Sampling Frame

A sampling frame is a comprehensive list of all sampling units from which a sample can be selected (Privitera & Ahlgrim-Delzell, 2018). It is a list containing potential respondents within a population who can always be called upon to take part in particular research project. The sampling frame of the study comprised of the list of enterprises in Kisumu town available in the Ministry of Commerce in the County.

3.5 Sampling and Sampling Technique

Since the population under study does not constitute homogeneous groups, the research used stratified sampling to obtain a representative sample (Kothari, 2009). Thus, the population was classified into two strata and representative elements were draw from each stratum as shown in Table 3.2. Mugenda and Mugenda (2003) shares that when well selected, the sample can constitute of 10-30% of the target population. Therefore, the researcher selected 30% of the respondents from each of the strata forming 129 respondents as the sample size as shown in Table 3.2.

Table 3.2: Sample Size

3.6 Data Collection Procedure

Relevant approvals were sought prior to actual data collection day. On the actual day, the researcher physically visited taxpayers who were administered with the questionnaire to be filled. The researcher administered the questionnaire to the participants and they were given a period of a week to capture in relevant information. This ensured that respondents had adequate time to share their relevant information in the questionnaire before being collected back by the researcher. When administering the questionnaire to the participants, the context details were captured for the making follow up.

3.7 Data Collection Instrument

Primary data was collected in this study with the aid of the questionnaire. The questionnaire was made up of close ended questions to ease the process of analysis. A five point Likert scale where 1-strongly disagree and 5-strongly agree was adopted in the study. The design of the questionnaire was guided by the objectives that the study sought to attain.

3.8 Pilot Testing

The questionnaire was pilot tested among 10 respondents who were not included in the final study. The pilot study

helped the researcher to test for validity and reliability of the questionnaire.

3.8.1 Validity of the Study Instrument

According to Jopee (2000) as cited in Golafshani (2003), validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are. The researcher shared the questionnaire with the supervisor who reviewed the contents and made recommendations for necessary actions that were effected.

3.8.2 Reliability of Study Instrument

Jopee (2000) as cited in Golafshani (2003) refers to reliability as the degree to which an assessment tool produces stable and consistent results. Cronbach Alpha was adopted to test for reliability of the questionnaire. The value 0.7 was considered as the threshold.

3.9 Data Analysis and Presentation

According to Kothari (2009), data analysis encompasses the processing and analysis of data. Specifically, processing implies editing, coding, classification and tabulation of collected data so that they are amenable to analysis. Analysis on the other hand refers to the computation of certain measures along with searching for patterns of relationship that exist among data-groups. The gathered data was analyzed through frequencies and percentages and regression analysis with the model as specified. The findings were presented through tables and figures.

$Y= \beta 0+ \beta 1X1+\beta 2X2+\beta 3X3+\varepsilon$

Where Y= VAT Compliance

B0 = Constant

$\beta 1$, $\beta 2$, and $\beta 3$ are Coefficients

ε = error term

X1= Tax audits

X2= Tax rate

X3= Compliance checks

3.9.1 Diagnostic Tests

Table 3.2 gives an overview of the diagnostic tests that were conducted prior to regression analysis:

Table 3.3: Diagnostic Tests

3.9.2 Operationalization of the Variables

The variables of the study are operationalized as shown in Table 3.4.

Table 3.4: Operationalization of the Variables

4. Findings and discussion

This chapter is set out to provide the findings of analysis of the data that was gathered from the field supported by the questionnaire. The specific sections covered in this chapter include the response rate, findings of reliability, the general information and the descriptive statistics as well as diagnostic and inferential statistics.

4.2 Response Rate

Out of the 129 questionnaires that were administered to respondents, 91 were dully filled and returned giving a response rate 70.5% as presented in Figure 4.1.

Figure 4.1: Response Rate

The response rate in Figure 4.1 is consistent with Babbie (2010) who shared that an above 70% response rate is adequate to support the analysis.

4.3 Reliability Results

Reliability analysis was conducted by computing the values of Cronbach Alpha coefficients from the dully filled piloted questionnaires. Table 4.1 is a summary of the findings.

Table 4.1: Reliability Results

Table 4.1 indicates the mean value of Cronbach Alpha Coefficient a 0.815 with the values for the respective variable being above 0.7. This means that the scale used in design of the questionnaire of this study was reliable. This is consistent with Golafshani (2003) who said that Cronbach Alpha Coefficient values above 0.7 signify that the study instrument is reliable.

4.4 Diagnostic Tests

Diagnostic tests were conducted to validate the assumptions of regression analysis. More specifically, the diagnostic tests that were conducted include multicollinearity, autocorrelation and normality test with the results as shown in subsequent sections.

4.4.1 Multicollinearity Test

Multicollinearity test is conducted to test whether one of the independent variables is correlated with each other. In this study, the VIF values were computed and appropriately interpreted to test for multicollinearity with the results as shown in Table 4.6.

Table 4.6: Multicollinearity Test

Table 4.6 indicates the mean VIF value as 1.790 and the respective values for the variables are all less than 2.4. Thus, it can be inferred that the VIF values fall within the range of 1-10. This is a clear indication that there was no was no multicollinearity in the data.

4.4.2 Autocorrelation Test

Autocorrelation was tested through Durbin Watson Statistic ad the findings were determined and summarized as indicated in Table 4.7.

Table 4.7: Autocorrelation Test

Table 4.7 indicate the values of Durbin Watson Statistic d as 1.632, which is roughly taken as 2 when rounded off. This is an indicator that there was no serial correlation in the data and thus it was suitable for running regression analysis.

4.4.3 Normality Test

Table 4.8 is an overview of the computed values of Skewness and Kurtosis on the study variables.

Table 4.8: Normality Test

Figure 4.2 is the histogram that was used to inspect the presence of normality in the data.

Figure 4.2: Histogram

Table 4.8 shows that all the values of Skewness and Kurtosis for the respective variables were within the range + or -2, an indication that the data used in the study was normally distributed. The findings of the histogram in Figure 4.2 indicate that the data of the study was normally distributed with a mean of 6.40 and standard deviation of 0.977. Being normally distributed, it follows that the data was suitable for being used to carry out regression analysis.

4.5 Descriptive Statistics

The researcher determined descriptive statistics on the objective variables of the study by computing the values of means and standard deviations. These findings are as summarized in the subsequent sections.

4.5.1 VAT Compliance

Table 4.2 is a breakdown of the findings on VAT compliance.

Table 4.2: VAT Compliance

The findings in Table 4.2 indicate an average of 3.61; this infers that respondents agreed on most of the statements provided on VAT compliance. This was in terms of business registration for VAT purpose (M=3.78) and timely filing of VAT returns (M=3.52). Compliance by VAT was also demonstrated by respondents through timely payment (M=3.52), payment of correct amount (M=3.53) and file of correct returns (M=3.51).

4.5.2 Tax Audit

Respondents were asked to indicate if they would welcome the move of being audited when they have been requested to do so. The findings were determined and summarized as shown in Figure 4.3.

Figure 4.3: Acceptance of the Move for being audited

Figure 4.3 shows that while 54% were willing to accept the move of belong audited by KRA; an alarming 46% of other respondents did not welcome such a move. This means that some of the firms were having noncompliance issues which created fear in case they are audited.

Tax audit was another independent objective variable of the study and the findings of descriptive statistics were determined and summarized as shown in Table 4.3.

4.5.3 Tax Audit

Table 4.3 indicates the value of average as 3.   17, this means that respondents were undecided on most of the statements presented to them under tax audit as a deterrent factor of VAT compliance. Accordingly, Kircher (2008) stated that tax audit is the examination of an individual or organization's tax report by the relevant tax authorities in order to ascertain compliance with applicable tax laws and regulations of state. On whether there was high probability that the firm would be audited for VAT, respondents agreed with a mean of 3.64. The finding is supported by Alstadsæter et al., (2017) and Chau and Leung (2009) who shared that

probability of detection imply the likelihood of detecting tax evasion behavior by the tax authorities through the use of its enforcement tools. However, on whether VAT audits had been frequently conducted, the statement was lowly rated with a mean of 2.80, which infers that respondents were indifferent on the statement.

4.5.3 Tax Rate

The findings of descriptive statistics on tax rate as an independent objective variable of the study were determined and presented as shown in Table 4.4.

Table 4.4: Tax Rate

From Table 4.4, the value of average is given as 3.21, this is an indication that respondents were indifferent on majority of the statements they were presented with on tax rate. On whether respondents knew the prevailing VAT tax rates, the mean was 3.70 showing that they agreed. Respondents further agreed with a mean of 3.65 that they knew the applicable tax rate when calculating VAT and that high income should attract more VAT taxes. However, on whether the existing VAT rates were too low for the business, the mean was 2.23 which imply that respondents disagreed on it. The findings are supported by Block (2016) who noted that the higher are the rates the bigger is the incentive to avoid or evade taxes or even to close the business at all.

4.5.4 Compliance Checks

The study sought to determine if their firms had undergone compliance check for the last 12 months and the resultant outcome. Figure 4.4 is a breakdown of the findings.

Figure 4.4: Possibility of Undergoing Compliance Check

Figurer 4.4 shows that an alarming 65% of the studied firms in Kisumu had ever undergone compliance checks. This raises concern about VAT compliance of firms in Kisumu. The findings of descriptive statistics on compliance checks were determined and summarized as shown in Table 4.5.

Table 4.5: Compliance Checks

The findings in Table 4.5 indicate the value of average as 3.74, which infers that respondents agreed on the statements that had been provided under compliance checks as a deterrent factor of VAT compliance. In particular, respondents agreed with a mean of 3.81 that compliance checks facilitated reconciliations in case of tax arrears and that returns were reviewed for accuracy during compliance checks as supported by a mean of 3.78. The findings are consistent with Amadala (2020) who noted the laws empower KRA to review tax returns for accuracy in the determination of taxes paid by each taxpayer and that this may be done through returns review, comprehensive audits or investigations .The outcome of which may include additional assessments or in the case of fraud; prosecution of the offenders.

4.6 Inferential Statistics

Inferential statistics covered in this study entailed correlation and regression analysis. While correlation analysis was meant to establish the nature and strength of the

relationship between the variables, regression analysis was used to predict the effect of deterrent factors on VAT compliance.

4.6.1 Correlation Matrix

The findings of correlation analysis are as summarized in Table 4.9.

Table 4.9: Correlation Matrix

The findings in Table 4.9 imply that tax audit has a strong and positive relationship with VAT compliance (r=0.624). The finding contradict with (Almunia & Lopez-Rodriguez, 2018; Ayers et al., 2015; Bott et al., 2017; Slemrod et al., 2001) who found the correlation between the probability of detection and tax evasion to be negative. However, the result is consistent with Mebratu (2016) whose result shows that the there is a strong association between probability of audit detection and the number of audited files with the level of tax compliance.

The study established that tax rate (r=-0.600) has a strong and negative correlation with VAT compliance. The finding contradicts Mas'ud, Aliyu and Gambo (2014) who showed that there is significant negative correlation between tax rate and tax compliance and tax rate has a negative effect on tax compliance. From the results, compliance checks were strong and positive correlates of VAT compliance (r=0.576).

4.6.2 Multiple Regression Results

Multiple regression analysis was conducted to establish the effect of deterrent factors on VAT compliance. Table 4.10 is a breakdown of the regression model summary.

Table 4.10: Model Summary

The results in Table 4.10 indicate the coefficient of determination R square as 0.545, this means that 54.5% change in VAT compliance among enterprises in Kisumu is explained by the deterrent factors. This therefore implies that aside from deterrent factors, there are still other factors that exert some influence on VAT compliance that future studies should seek to establish. The ANOVA findings were determined and the results summarized as indicated in Table 4.11.

Table 4.11: ANOVA

Table 4.11 indicate that the overall regression model used in the study was significant (F=34.692, P<0.05.). The findings of the beta coefficients and significance were determined and summarized as shown in Table 4.12.

Table 4.12: Beta Coefficients and Significance

From Table 4.12, the predicted equation between the deterrent factors and tax compliance becomes:

Y=.821+.043X1-.056X2+.058X3

Where Y= VAT Compliance

X1= Tax audits

X2= Tax rate

X3= Compliance check

From the above model, it is evident that holding other factors constant, a unit increase in tax audits would increase VAT compliance among enterprises in Kisumu County by 0.043 units. Increasing tax rate by a unit other factors held constant would increase VAT compliance among enterprises in Kisumu County by 0.056 units. A unit increase in tax penalties with other factors relaxed would increase VAT compliance among enterprises in Kisumu County by 0.058 units. Thus, compliance checks have the greatest contribution towards VAT compliance among SMEs in Kisumu County (β=0.058) followed by tax rate (β=0.056) and lastly tax audits (β=0.043).

Taking the significance level at 5%, the study established that tax audits (p<0.05) were significant predictors of VAT compliance among enterprises in Kisumu County. This finding contradict with Ariel (2012) who found that the effect of perceived probability of detection along with apprehension on tax evasion to be insignificant. Alm and McKee (2006) also established the insignificant effect of audits. However, the result is supported by Olaoye and Ekundayo (2019) who established that desk audit, field audit; back duty audit and registration audit had a positive significant effect on tax compliance and remittance in Ekiti State. Nurebo, Tarakegn and Gutu (2021) revealed that detection of noncompliance, probability of being audited and awareness of taxpayers are positive factors that are affecting compliance of taxpayers significantly. Nyakamba (2014) established that the more tax audits conducted the more revenue collected in the audit and in the subsequent years as the companies are better informed.

The study noted that tax rate (p<0.05) significantly influences VAT compliance among enterprises in Kisumu County. The finding contradicts Mas'ud, Aliyu and Gambo (2014) who showed that there is significant negative correlation between tax rate and tax compliance and tax rate has a negative effect on tax compliance. Gitonga, Kyalo and Maina (2015) revealed that tax rates had a significant relationship with tax compliance at 95% confidence level. From the findings, compliance checks (p<0.05) are significant in influencing VAT compliance among enterprises in Kisumu County.

5. Summary, conclusion and recommendations

This chapter is set out to detail the summary of findings of analysis based on the specific objectives. The conclusion and recommendations are also provided based on the analyzed key findings. The areas requiring further research are clearly pointed out.

5.2 Summary of the Findings

The section provides a summary of the analyzed findings based on objectives of the study:

5.2.2 Tax Audit and VAT Compliance

Respondents were undecided on most of the statements presented to them under tax audit as a deterrent factor of VAT compliance. Correlation results were that that tax audit has a

strong and positive relationship with VAT compliance. From regression analysis, tax audits were significant predictors of VAT compliance among enterprises in Kisumu County.

5.2.3 Tax Rate and VAT Compliance

Respondents were indifferent on majority of the statements they were presented with on tax rate. The findings of correlation analysis were that tax rate has a strong and negative correlation with VAT compliance. As per regression results, tax rate significantly influences VAT compliance among enterprises in Kisumu County.

5.2.4 Compliance Checks and VAT Compliance

Respondents agreed on the statements that had been provided under compliance check as a deterrent factor of VAT compliance. From correlation analysis, compliance checks were strong and positive correlates of VAT compliance. The findings of regression analysis were that compliance checks are significant in influencing VAT compliance among enterprises in Kisumu County.

5.3 Conclusion

The study was set out to investigate the influence of tax audits on value added tax compliance among enterprises in Kisumu County, Kenya. Based on the results, the study concludes that tax audit has a strong and positive relationship with VAT compliance. Tax audits were significant predictors of VAT compliance among enterprises in Kisumu County.

The second objective of the study was to determine the influence of tax rate on value added tax compliance among enterprises in Kisumu County, Kenya. From the results, this study concludes that tax rate has a strong and negative correlation with VAT compliance. Tax rate significantly influences VAT compliance among enterprises in Kisumu County.

This study was set out to establish the influence of compliance check on value added tax compliance among enterprises in Kisumu County, Kenya. As per the results, the study concludes that compliance checks were strong and positive correlates of VAT compliance. Compliance checks are significant in influencing VAT compliance among enterprises in Kisumu County.

5.4 Recommendations of the Study

The senior tax auditors at KRA should increase the audit rate and the probability of audit detection to drive VAT compliance among tax payers. As opposed to increasing the VAT tax rates, the management team at KRA should consider other innovative strategies like expansion of the tax base so that more prospective and potential taxpayers are brought in.

The study recommends that KRA should leverage the compliance checks alongside other non-deterrent measures like waivers and tax amnesty programs in order to achieve intended results of fostering VAT compliance among the taxpayers.

5.5 Suggestions for Further Research

The present study related deterrent factors with VAT as a tax head. Regression results indicated the value of R square as 54.5%. This means that there are other factors apart from deterrent factors that have an effect on VAT compliance the essence of future studies should be on uncovering these other additional factors. Aside from VAT, future studies can be conducted while focusing on other tax heads for instance turnover tax. This will provide room for comparison of the findings to make informed decisions.

References

[1.] Abuamria, F. (2019). The effect of deterrence factors on discourage shadow economy level and tax evasion. International Journal of AcademicResearch in Accounting, Finance and Management Sciences, 9(1), 62 -67.

[2.] Alemu, A. A. (2020). Impact of tax compliance with reference to category ''A'' taxpayers: Acase study in Hawassa City Administration, South Nations, Nationalities and Peoples' Regional State of Ethiopia. Journal of Modern Accounting and Auditing, 16(6), 278-290.

[3.] Ali, M. M., Cecil, H. W., & Knoblett J. A. (2001). The effects of tax rates and enforcement policies on taxpayer compliance: A study of self-employed taxpayers. Atlantic economic journal, 20(2), 186-202.

[4.] Alkhatib, A. A., Abdul-Jabbar, H., & Marimuthu, M. (2018). The effects of deterrence factors on income tax evasion among Palestinian SMEs. International Journal of Academic Research in Accounting, Finance and Mangement Sciences, 8(4), 144-152.

[5.] Amalda, V. (2020). KRA heightens checks on taxpayers as D-day for returns approaches. Retrieved at https://www.the-star.co.ke/business/kenya/2020-06-24

[6.] Amir, E., Lazar, A., & Levi, S. (2018). The deterrent effect of whistleblowing on tax collections. European Accounting Review, 27(5), 939-954

[7.] Ariel, B. (2012). Deterrence and moral persuasion effects on corporate tax compliance: findings from a randomized controlled trial. Criminology, 50(1), 27-69

[8.] Beer, S., Kasper, M., Kirchler, E., & Erard, B. (2020). Do audits deter or provoke future tax noncompliance? Evidence on self-employed taxpayers. CESifo Economic Studies, 66(3), 248-264

[9.] Block, J. (2016). Corporate income taxes and entrepreneurship. IZA World of Labor.

[10.] Bt Ynus, N., & bt Ramli, R. (2017). Tax penalties and tax compliance of small medium enterprises (SMEs) in Malaysia.

[11.] Dare, C. (2020). The impact of changes in audits and penalties on tax compliance behavior: evidence from South Africa. Southern African Business Review, 24,22-pages.

[12.] Devos, K. (2013). The role of sanctions and other factors in tackling international tax fraud. Common Law World Review, 42(1), 1-22.

[13.] Dularif, M., Sutrisno, T., & Saraswati, E. (2019). Is deterrence approach effective in combating tax evasion? A meta-analysis. Problems and Perspectives in Management, 17(2), 93-113.

[14.] Ebrill, L. P., Keen, M., & Perry, V. J. (2001). The nature, Importance and Spread of the VAT. In The Modern VAT. International Monetary Fund.

[15.] Ergete., F. (2019). The Revenue Effects Of Tax Rate Increases On High-Income Earners.

[16.] Faridy, N., Freudenberg, B., & Saker, T. (2016). They are a Tax Fearing People': Deterrent Effect-Penalties, Audit and Corruption in a Developing Country. Curtin Law and Taxation Review, 3, 1-50.

[17.] Feld, L. O., & Frey, B. S. (2006). Tax evasion in Switzerland: The roles of deterrence and tax morale. Tax Evasion, Trust and State Capacities, 3, 123-153

[18.] Freire-Seren, M. J., & Panades, J. (2013). Do higher tax rates encourage/discourage tax compliance?. Modern Economy, 2013.

[19.] Frey, B. S., & Feld. L. P. (2002). Deterrence and morale in taxation: An empirical analysis. Available at SSRN 341380.

[20.] Gangl, K., Hartl, B., Hofmann, E., & Kirchler, E. (2019). The relationship between Austrian auditors and self-employed taxpayers: Evidence from a qualitative study. Frontiers in psychology, 1,1034

[21.] Gangl, K., Torgler, B., Kirchler, E., & Hofmann, E. (2014). Effects of supervision on tax compliance: Evidence from a field experiment in Austria. Economics Letter, 123(3), 378-382

[22.] Gemmell, N., & Ratto, M. (2018). The effects of penalty information on tax compliance: evidence from a New Zealand field experiment. National Tax Journal, 71(3), 547-588.

[23.] Gitonga, E. N., Kyalo, T., & Maina, L. (2015). Influence of tax rates on tax compliance in the informal sector in Kenya: Survey of Nyer town.

[24.] Kipkoech, K. D., & Joel, T. (2016). Effect of economicfactors on tax compliance in Kenya: A survey of limited liability companies within eldoret municipality. Journal of International Business Research and Marketing, 1(2), 18-22.

[25.] Kuchumova, Y. P. (2017). The optional deterrence of tax evasion: The trade-off between information reporting and audits. Journal of Public Economics, 145, 162-180.

[26.] Mach, P. (2018). VAT rates and their impact on business and tax revenue. European Research Studies Journal 8(1), 144-152.

[27.] Masud, A., Alivu, A. A., & Gambo, E. J. (2014). Tax Rate and Tax Compliance In Africa. European Journal of Accounting Auditing and Finance Research 2(3), 22-30

[28.] Mebratu, A. A. (2016). Impact of Tax audit on improving Taxpayers compliance: empirical evidence from Ethiopian revenue Authority at federal level. International Journal of Accounting Research, 2(12), 1-19.

[29.] Merima Ali, O. H. (2013). Citizens' Attitudes Towards Taxation in Kenya, Tanzania, Uganda and South Africa. Norway: Afrobarometer.

[30.] Ndumia, S. K. (2015). The effect of enforcement measures on value added tax revenue for firms in the large corporate taxpayer category in Kenya (Doctoral dissertation, University of Nairobi).

[31.] Nurebo, B. Y., Tarakegn, G., & Gutu, E. (2021). Effect of tax audit on the taxpayers' compliance: a case of Ethiopian Ministry of Revenue, Hawassa and Jimma branches. Asia-Pacific Journal of Science and Technology, 26(02).

[32.] Nyakamba, D. M. (2013). The effects of tax audit on revenue collection: case of Kenya Revenue Authority (Doctoral dissertation, University of Nairobi)

[33.] Nyakamba, D. M. (2014). The effects of Tax Audit On Revenue Collection: Case of Kenya Revenue Authority.

[34.] Olaove, C. O., & Ekundayo, A. T. (2019). Effects of tax audit on tax compliance and remittance of tax revenue in Ekiti State: Open Journal of Accounting, 8(1), 1-17.

[35.] Ortega, D., & Sanguinetti, P. (2013). Deterrence and reciprocity effects on tax compliance: experimental evidence from Venuela.

[36.] Parliamentary Budget Office (2021), Unpacking the Estimates of Revenue and Expenditure for 2021/2022 and the medium term. Retrieved at http://www.parliament.go.ke/sites/default/files/2021-05-/Unpacking%20of%the%20FY%2021-22%20budget.pdf

[37.] Pomeranz, D. (2015). No taxation without information: Deterrence and self-enforcement in the value added tax. American Economic Review, 105(8), 2539-69.

[38.] Rahmavanti, N. P., & Prihatiningtias, Y. W. (2020). Effect of tax penalties, tax audit and taxpayers' awareness on corporate taxpayers' compliance moderated by compliance intentions. International Journal of Research in Business and Social Science (2147-4478), 9(2), 118-124.

[39.] Swistak, A. (2016). Tax penalties in SME tax compliance. Financial theory and practice, 40(1).129-147.

[40.] TRA. (2020). Interest, Penalties & O   ffences Retrieved at https://www.tra.go.tz/index.php/interest-penalties-offences.

[41.] Van Rooij. B. (2016). Weak enforcement, strong deterrence: dialogues with Chinese lawyers about tax evasion and compliance. Law & Social Inquiry, 41(2), 288-310.
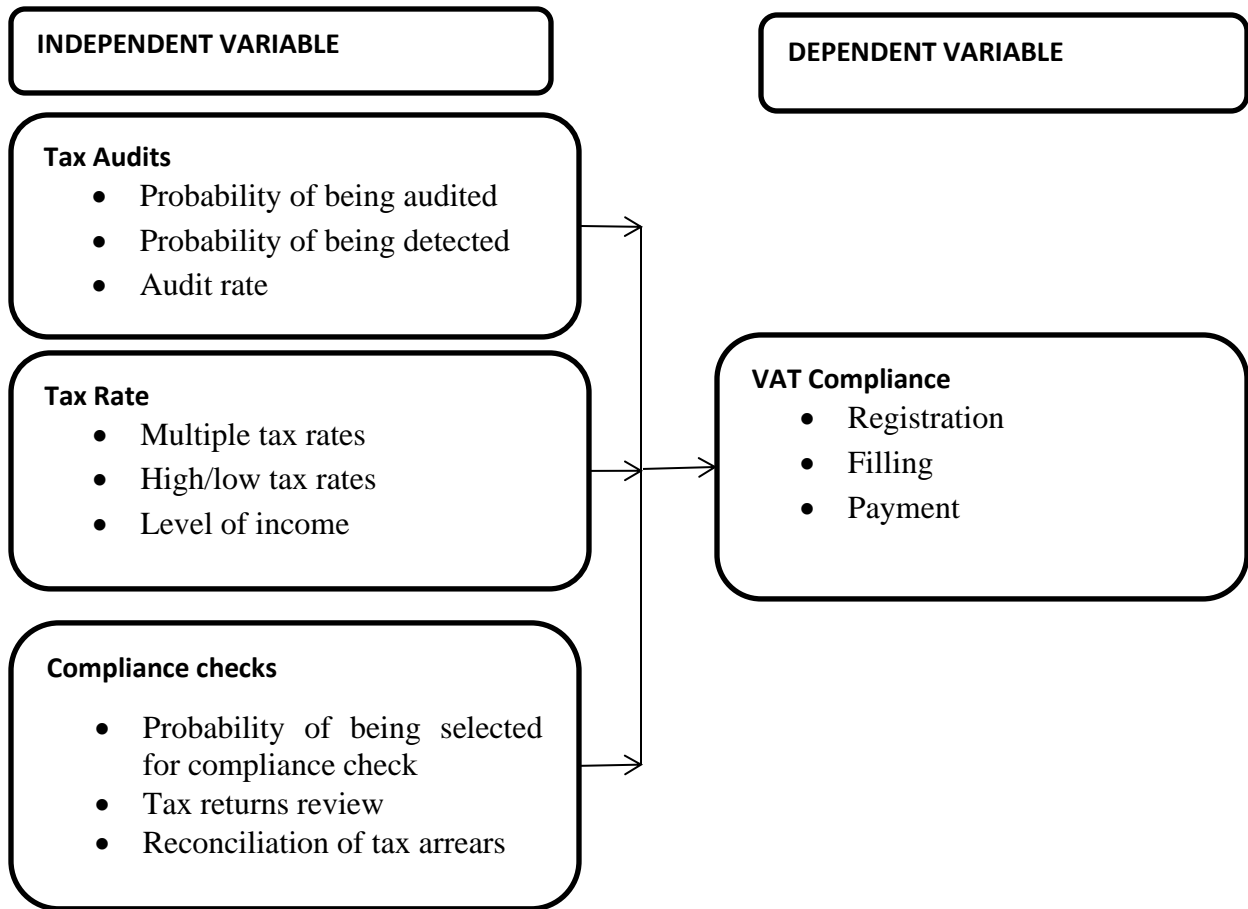
```
┌─────────────────────────┐          ┌─────────────────────────┐
│  INDEPENDENT VARIABLE    │          │   DEPENDENT VARIABLE     │
└─────────────────────────┘          └─────────────────────────┘
```

Tax Audits
- Probability of being audited
- Probability of being detected
- Audit rate

Tax Rate
- Multiple tax rates
- High/low tax rates
- Level of income

VAT Compliance
- Registration
- Filling
- Payment

Compliance checks

- Probability of being selected for compliance check
- Tax returns review
- Reconciliation of tax arrears

Figure 2.1: Conceptual Framework

Table 3.1: Target Population

Category	Target population
Eateries/hotels	100
Grocery stores	80
Hardwares	90
Furniture stores	80
Agrovets	80
Total	**430**

Source: Kisumu County (2020)

Table 3.2: Sample Size

Category	Target population	Sample proportion (30%)	Sample size
Eateries/hotels	100	30%	30%*100=30
Grocery stores	80	30%	30%*80=24

Hardwares	90	30%	30%*90=27
Furniture stores	80	30%	30%*80=24
Agrovets	80	30%	30%*80=24
Total	**430**		**129**

Source: Kisumu County (2020)

Table 3.3: Diagnostic Tests

Test	Test specification	Description	Threshold
Multicollioneality	Variance of Inflation Factors (VIFs)	It tests whether one of the independent variables is correlated with each other	1-10 VIF values signify absence of multicollinearity
Normality	Skewness and Kurtosis	It tests whether the data has a normal distribution	+/-2 values indicate normality assumption
Autocorrelation	Durbin Watson Statistic	It determines presence of serial correlation in the data	Values close or equal to 2 signify absence of serial correlation

Table 3.4: Operationalization of the Variables

Variable	Indicator	Scale of measurement
Tax Audits	• Probability of being audited • Probability of being detected • Audit rate	Ordinal
Tax Rate	• Multiple tax rates • High/low tax rates • Level of income	Ordinal
Compliance checks	• Probability of being selected for compliance check • Tax returns review • Reconciliation of tax arrears	Ordinal
VAT Compliance	• Registration • Filling • Payment	Ordinal
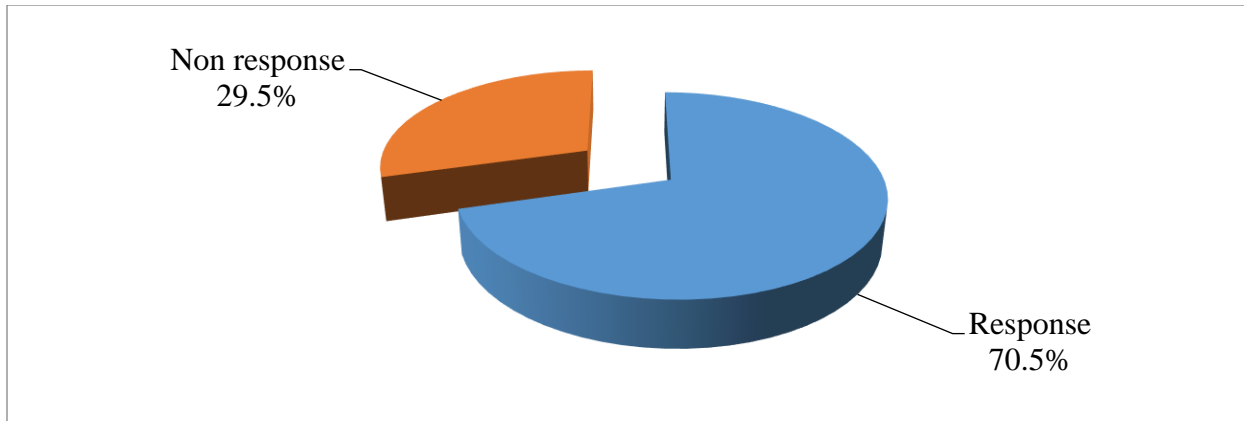
Figure 4.1: Response Rate

Table 4.1: Reliability Results

Variable	No. of Items	Cronbach Alpha Coefficient
Tax Audit	5	.765
Tax Rate	5	.986
Tax Penalties	5	.733
VAT Compliance	5	.775
Mean		**.815**

Table 4.2: VAT Compliance

	Mean	Std. Dev
My business is registered for VAT purpose	3.78	.975
I file VAT returns on time	3.52	.794
I file correct VAT returns	3.51	1.045
I pay VAT due on time	3.52	.737
I pay correct amount of VAT	3.53	.744
Average	**3.57**	**.859**

Table 4.3: Tax Audit

	Mean	Std. Dev
There is high probability that this firm will be audited for VAT	3.64	.958
It is likely that this firm will be audited for VAT	3.46	.881
It is unlikely that the firm will be detected from VAT audits	2.34	1.025
It is likely that any noncompliance will be detected by VAT audits	3.61	.860
Frequent VAT audits have been conducted in this firm	2.80	.742
Average	**3.17**	**0.893**

Table 4.4: Tax Rate

	Mean	Std. Dev
I know the current VAT tax rates	3.70	.761
I know the applicable tax rate when calculating VAT	3.65	1.057
The current tax rate is good for the firm like mine	2.94	.869
The current VAT rates are too low for this business	2.23	.938
High income should attract more VAT taxes	3.55	.798
Average	**3.21**	**0.885**

Table 4.5: Multicollinearity Test

	Collinearity Statistics	
	Tolerance	VIF
Tax Audit	.640	1.562
Tax Rate	.423	2.363
Compliance check	.693	1.444
Mean	**.585**	**1.790**

Table 4.6: Autocorrelation Test

Model	Durbin-Watson
1	1.632[a]

Table 4.7: Normality Test

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Tax Audit	.468	.295	-.820	.582
Tax Rate	.952	.295	-.728	.582
Compliance check	-1.732	.295	1.733	.582
VAT Compliance	.616	.295	-.003	.582

Histogram

Dependent Variable: VAT_Compliance
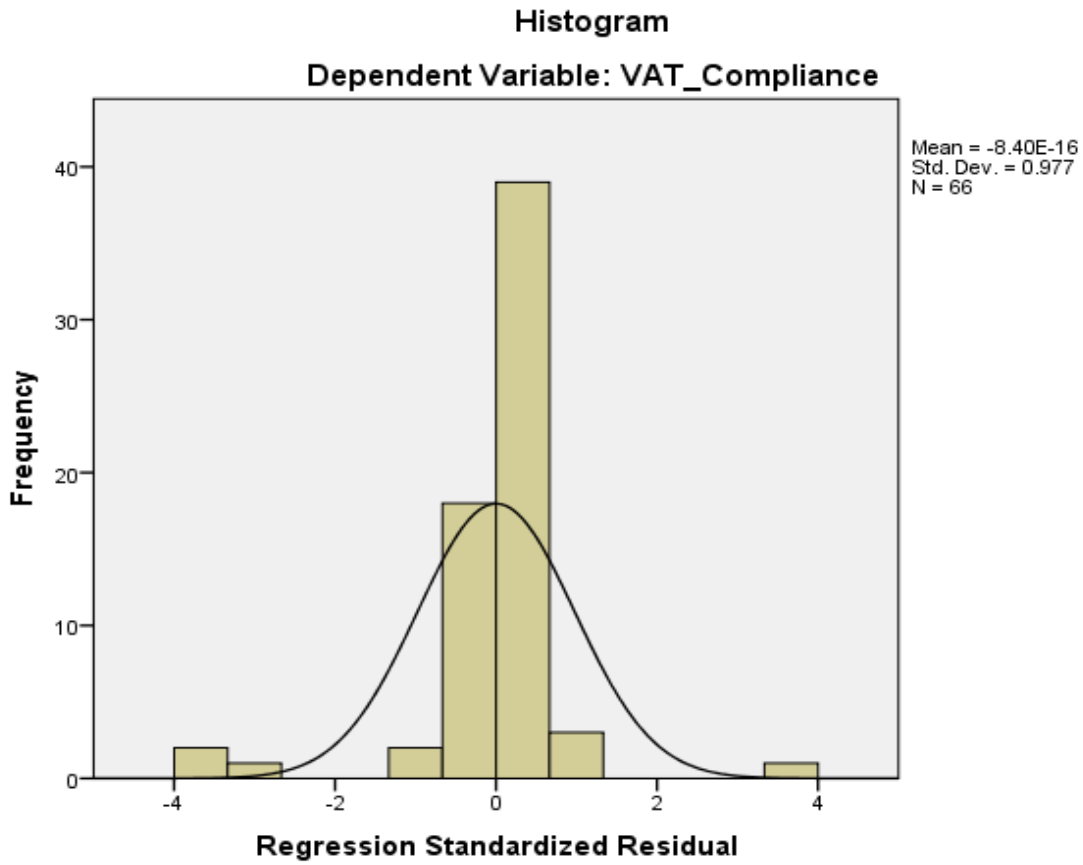

Mean = -8.40E-16
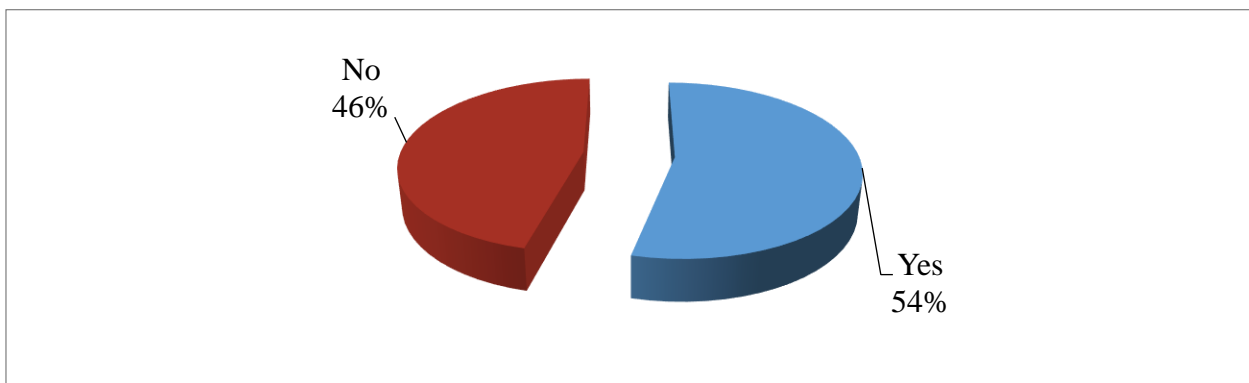Std. Dev. = 0.977
N = 66

Figure 4.2: Histogram

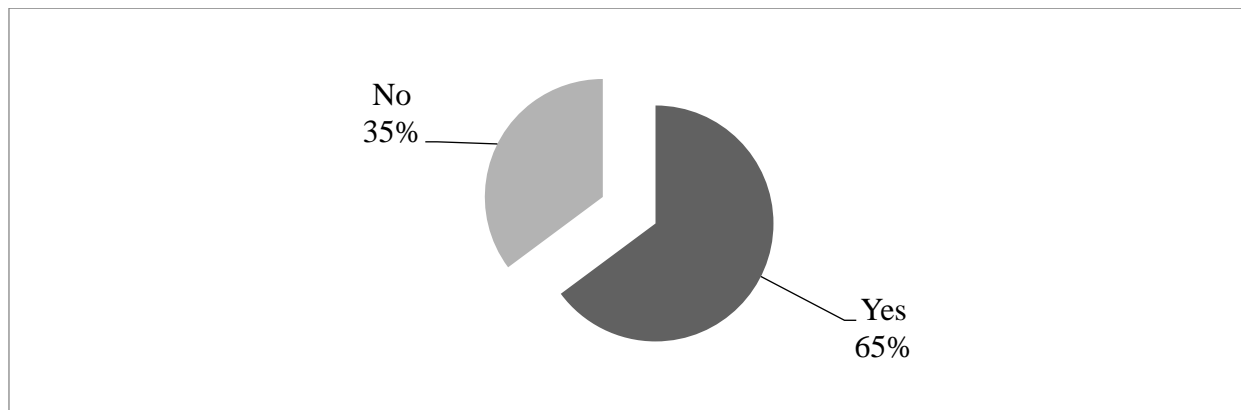**Figure 4.3: Acceptance of the Move for being audited**

Figure 4.4: Possibility of Undergoing Compliance Check

Table 4.8: Correlation Matrix

		VAT Compliance	Tax Audit	Tax Rate	Tax Penalties
VAT Compliance	Pearson Correlation	1			
Tax Audit	Pearson Correlation	.624	1		
Tax Rate	Pearson Correlation	-.600	.665	1	
Compliance check	Pearson Correlation	.576	.566	.292	1

Table 4.9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.738[a]	.545	.523	.14448

Table 4.10: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.548	3	.516	34.692	.000[b]
Residual	1.294	87	.015		
Total	**2.842**	**90**			

Table 4.11: Beta Coefficients and Significance

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	.821	.166		4.948	.000
Tax Audit	.043	.011	.152	3.907	.026
Tax Rate	-.056	.017	-.389	-3.358	.021
Compliance check	.058	.016	.376	3.584	.001