Factors Affecting Value Added Tax Performance of Medium Enterprises in Nyeri County, Kenya

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A Research Project submitted in partial fulfillment of the requirements for the Post Graduate Diploma in Tax Administration of the Jomo Kenyatta University of Agriculture and Technology

2022
DECLARATION

This research project is my original work and has not been presented for a post graduate diploma in any other academic or non-academic institution.

Signature ………………… Date …………………

Benedetta Munyiva Maingi

HDB336-C016-4447/2016

This research project has been submitted for examination with my approval as the Supervisor.

Signature ……………… Date …………………

Dr. Peter Magero

JGUAT, Kenya
DEDICATION

I dedicate this project to all my friends for the support they gave me as I was developing it.
ACKNOWLEDGEMENT

I thank God for giving me sufficient grace to complete this project. I appreciate my supervisor, Dr. Peter Magero for the support that enabled me to clear this project.
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<tr>
<td>KESRA</td>
<td>Kenya School of Revenue Administration</td>
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<td>Kenya Revenue Authority</td>
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<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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OPERATIONAL DEFINITION OF TERMS

Deterrence measures include the VAT rates, VAT interests and penalties, VAT audits and probability of VAT audit detection (Dularif, Sutrisno & Saraswati, 2019).

Enforcement is the application of a law or regulation, or carrying out of an exercise to ensure that delinquent tax payers honor their tax dues and the subsequent penalties charged as a result of default (Kiame, 2019).

Technological factors include taxpayers' technical skills, availability of infrastructures, cost of internet access and the taxpayers' perceptions on i-tax (Kamau, 2014).

Value Added Tax is tax on the supply of goods and services which is eventually borne by the final consumer but collected at each stage of production and distribution chain (KRA, 2015).

Value Added Tax Performance refers to an achievement of revenue collection on the tax which is payable only on value-added items. It is reflected in registration, filling and payment of status of VAT by the taxpayers (Anjulo & Waje, 2018).
ABSTRACT

The focus of the inquiry was on establishing the factors that affect VAT performance among SMEs in Nyeri. The specific objectives of the inquiry revolved around enforcement measures, technological factors and deterrent factors all in relation to value added tax performance of medium enterprises in Nyeri County, Kenya. The study was guided by the economic deterrence theory and ability to pay theory. This study adopted a descriptive survey design targeting 350 medium sized firms in Nyeri town and its environs. Stratified random sampling was adopted to select 183 respondents. Primary data was collected through questionnaire that was piloted tested beforehand. The analysis of the collected data was done through descriptive and inferential statistics. The findings were that a unit improvement in enforcement measures, technological factors and deterrent factors would increase VAT performance among medium enterprises in Nyeri County by 0.368 units, 0.124 units as well as 0.149 units respectively. The study conclude that enforcement measures, technological factors and deterrent factors are significant predictors when it comes to VAT issued. It was recommended that the information and communication technology managers should enhance and reconfigure the existing technological platforms like i-tax so that they are more user-friendly. More deterrent measures should be put in place to deter taxpayers from evading taxes.
CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Value Added Tax (VAT) is one of the modern indirect taxes levied on consumption where the value of goods and services increases as they charge hands in the course of purchase, production, distribution, and final sales to the consumer. The concept of VAT was introduced in 1954 by a French economist Maurice Laurie who was the joint director of the French tax authority. The emergence and rapid spread of VAT are among the most important tax development of the late 20th century. Some countries refer to the tax as General Sales Tax (GST) or Goods and Services Tax (GST). More than 160 countries worldwide, including European countries, practices VAT with a proclamation that provides an exemption for basic necessities and domestic transportation to encourage investment and trades (Roel & Mark, 2018).

1.1.1 Global perspective on factors affecting Value Added Tax Performance

Among European Union (EU) members, Kowal and Przekota (2021) shared that a tax system with a small number of reduced rates, and preferably with one relatively low standard rate, is the system least susceptible to tax fraud. Furthermore, in countries with a higher standard VAT rate and a greater number of preferential rates, the tax gap is greater. Małgorzata (2018) concentrated on Germany and Poland sharing that in the ranking of the countries with the highest ratio of total taxes (including social security contributions) to GDP, prepared by the European Union in 2017, Germany occupies the 9th position (38.6%) and Poland–22nd (32.5%). If social security contributions are excluded, the relative positions of these countries change: Germany ranks the 17th (23.5%) and Poland – 24th (20.0%). Germany has a tax system that is based on high social security contributions (Taxation Trends in the European Union, 2017). In Iran, Erfani, Rahbari, Heydari and Shahhosseini (2013) observed that there is an indirect VAT tax system which grown in popularity in many countries. Within the context of Shakkour, Almohtaseb, Matahen and Sahkkour (2021) shared that individual features, education issues on VAT and positive correlates of compliance with VAT.
1.1.2 Regional perspective on factors affecting Value Added Tax Performance

Ousman (2019) studied factors affecting effectiveness of VAT collection in the case of Bahir Dar City arguing that VAT collection practice, penalty, employees competency, and employees integrity have positive and significance influence on the effectiveness of VAT collection whereas, taxpayers awareness have positive and insignificant influence on the effectiveness of VAT collection. In an inquiry on challenges of value added tax collection performance in Ethiopia, Jerene (2016) shared that failure to issue invoices after selling and customers' lack of initiative to ask for receipts after shopping and getting services also increases the prevalence of un-collectability of VAT in the city.

Addison and Levin (2012) looked at the determinants of tax revenue in sub-Saharan Africa where evidence of relationships between the effect of openness and per-capita GDP on the trade-tax GDP ratio was established. Andoh (2017) looked at the taxable capacity and effort of Ghana's value-added tax. It was discovered that the VAT regime is characterized by both periods of underexploited and overexploited taxable capacities. However, on the whole, there appears to be little scope for further revenue expansion, given the existing base. Tebebu and Yitbarek (2020) looked at the implementation of value added tax and it's challenges in Ethiopia. It was observed that less creation of awareness and education programs, low level of competences and enforcement of laws related with tax and evasion of tax are key issues when it comes to VAT compliance in the country.

Tikuye (2021) looked at the key issues with implication on gathering of VAT in Ethiopia. The variables covered in the inquiry included enforcement and fraud where all were seen to have a significant implication on gathering of VAT. Ade, Rossouw and Gwatidzo (2018) analyzed the determinants of tax revenue performance in the Southern African Development Community (SADC) where the results generally highlight the robust role of taxation (tax rates and tax policy harmonization variables) (alongside other important determinants) in improving tax revenue in the region, providing empirical support for extant anecdotal evidence.

Anjulo and Waje (2018) did an inquiry whose key focus was on main issues that implicate VAT performance in the context of Ethiopia. It was observed that awareness at the society level, issues of evasion, enforcement and auditing and administration concerns are some of the key issues that drive compliance with VAT. In Tanzania, Masalu (2013) revealed that the means of fighting corruption and embezzlements affect the revenue performance of VAT positively.
1.1.3 Local Perspective on factors affecting Value Added Tax Performance

Gituma (2017) looked at the determinants of effective revenue collection by Embu County Kenya. It was established that government policy, rules and regulations had the greatest effect on the optimal revenue collection, followed by corruption, then employee qualification, skills and training while technology and information systems had the least effect to the optimal revenue collection. King’Oina (2016) looked at factors influencing value added tax compliance among the construction firms in Kisumu County, Kenya and findings revealed that tax understanding, tax deterrence, enforcement measures and knowledge has a significant effect on tax compliance.

1.2 Statement of the Problem

Performance of VAT at KRA has been occasioned by inconsistent failure to meet targets for some time resulting into VAT gaps. For instance, in the financial year 2019/20, there was a reduction in VAT by 7% compared to what was recorded in 2018/19. For 2020/21, the amount of VAT reduced by 20% (KRA, 2021). This trend in performance of VAT is not encouraging and requires further consideration to bring out related determinants.

The available studies include Erfani, Rahbari, Heydari and Shahhosseini (2013) who looked at in factors that influence on the performance of value added tax system in Iran sharing that the system of value added tax is one of indirect taxes which due to its particular features like high efficiency and income, self-regulatory nature and transparency has become popular and practiced in many countries over recent decades. Shakkour, Almohtaseb, Matahen and Sahkkour (2021) focused on bringing out factors influencing the value added tax compliance in small and medium enterprises in Jordan and the findings reveal a strong positive relationship between personal characteristics, VAT education and tax compliance under both theoretical grounds and also indicate a positive correlation between VAT compliance cost, audit system and VAT compliance in Jordan. Tebebu and Yitbarek (2020) studied implementation of value added tax and it's challenges in Ethiopia and the result of the study shows that there are less awareness creation and educational programs, inadequate competence, inadequate enforcement of tax laws, absence of consistent follow-up to assess and register unregistered traders, inadequate infrastructure, weak monitoring, tax evasion, inefficient tax intelligence work and tax auditing. Gituma (2017) examined the determinants of effective revenue collection by Embu County, Kenya where it was established that government policy, rules and regulations had the greatest effect on the optimal revenue collection, followed by corruption, then
employee qualification, skills and training while technology and information systems had the least effect to the optimal revenue collection.

The aforementioned studies create gap, as some of them were done in different contexts at country level for instance Iran and Jordan and not in Kenya. Other studies were done focusing on other concepts like compliance and not performance. This creates gaps that the present study sought to fill by establishing the factors affecting value added tax performance of medium enterprises in Nyeri County, Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

The study sought to establish factors affecting value added tax performance of medium enterprises in Nyeri County, Kenya.

1.3.2 Specific objectives

i. To establish the effect of enforcement measures on value added tax performance of medium enterprises in Nyeri County, Kenya

ii. To establish the effect of technological factors on value added tax performance of medium enterprises in Nyeri County, Kenya

iii. To establish the effect of deterrent factors on value added tax performance of medium enterprises in Nyeri County, Kenya

1.4 Research Questions

i. What is the effect of enforcement measures on value added tax performance of medium enterprises in Nyeri County, Kenya?

ii. How do technological factors affect value added tax performance of medium enterprises in Nyeri County, Kenya?

iii. Do deterrent factors affect value added tax performance of medium enterprises in Nyeri County, Kenya?

1.5 Significance of the Study

The findings of the study would be important to the following:
1.5.1 Management of Medium Enterprises

The management team working among medium sized enterprises would be able to understand the need to focus on factors influencing performance of VAT.

1.5.2 Policy Makers

The policy makers would be able to formulate relevant policies regarding VAT including its collection. The policy makers at KRA would be able to appreciate and formulate sound policies as far as VAT.

1.5.3 Contribution to Literature

The study would contribute towards the existing literature on factors that inform VAT performance. This would make it easy for future scholars carrying out related studies as they would be able to review this literature.

1.6 Scope of the Study

The study looked at the factors affecting value added tax performance of medium enterprises in Nyeri County, Kenya. More specifically, the study focused on enforcement measures, technological factors and deterrent factors as they are related with VAT performance. The study was conducted among medium enterprises in Nyeri County. The study was done using primary data collected through questionnaire.

1.7 Limitations of the Study

It was a challenge to obtain VAT information from the taxpayers as this was a very sensitive area. Respondents feared to disclose the information on fear that same could be used for intelligence purpose to intimidate and even arrest them. However, assurance was highly provided to the respondents that the information being sought was only to be utilized for academic purpose alone.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter is set out to review literature based on the existing studies. The review of literature revolves around theories that underpinned the inquiry and the past empirical studies. The critique, summary and research gaps are also pointed out.

2.2 Theoretical Review

2.2.1 The Economic Deterrence Theory

The economic deterrence theory is a theory under criminology developed by Becker (1968). The theory is built on the perception that an individual will be deterred from committing a crime if the benefit of the crime is outweighed by the consequence of committing the crime. The theory is premised in the belief that all individuals are aware of the consequences associated with criminal behavior. Taxpayers will act contrary to the law after evaluating the uncertain advantages of a successful evasion against the risk of being caught and punished. Rational taxpayers will evade taxes if the expected benefits are greater than the cost of being caught. Deterrence can achieved through punitive and persuasive approaches (Kendrick, 1939). Under the punitive approach, effective imposition of tougher penalties and reducing the probability of non-detection will deter a taxpayer from committing activities related to tax evasion. Persuasive approaches advocates for activities relating to improved taxpayer education concerning their duties, rights & obligations, simplifying the tax system and facilitating taxpayers in filing their tax returns & making payments. The theory was used to underpin the variable of deterrent factors.

2.2.2 Ability to Pay Theory

The ability to pay theory developed by, Mill (1848) proposes that citizens to contribute to the support of the government as nearly as possible, in proportion to their respective abilities in terms of revenue. Those who are better able to pay should bear the greater burden of taxation, whether or not they benefit. Ability to pay is interpreted in terms sacrifice. It says that money for public should come from “him that hat” instead of from “him that hath not”, Kendrick (1939). Kendrick further says that, the usual and indeed the only serious justification of ability to pay is on grounds of sacrifice. The payment of tax is viewed as a deprivation to the taxpayer.
He might have spent the money for his own purposes but instead must turn it over to the public treasury from which it will be expended for social ends. In surrendering his money to the government, he is said to make a sacrifice.

The idea of sacrifice when linked to the concept of the declining marginal utility of money has given rise to three theories of progressive taxation: the equal, equal-proportional, and least-sacrifice theories. The theory of equal-sacrifice suggests that, taxes should be laid in such a manner that the sacrifices of all taxpayers are equal. The concept of equal sacrifice means to impose an equal amount of sacrifice on all taxpayers, (Brown, 1929). The theory of equal-proportional sacrifice holds that the sacrifice of taxpayers should bear an equal proportion to their incomes. Thus in this view equality of sacrifice is not sufficient. The rich man's tax payment should represent a greater sacrifice than the contribution of a man of moderate means. It should, however, not be greater in relation to his income. The equality is, therefore, to be found in the proportion, not in the quantity of sacrifice, (Pigou, 1928). The theories of equal and of equal-proportional sacrifice both involve the taxation of poor as well as rich persons, (Seligan, 1928). In neither theory is there an attempt to make any income group bear all the taxes. According to the theory of least sacrifice, taxes should be laid first on the incomes of the very rich (Pigou 1928). When these incomes are reduced to the level of the rich, then the rich would be taxed. Persons of moderate means would be taxed only after the incomes of the very rich and the rich have been reduced by taxation to their level. The theory calls for the progressive elimination of the high incomes by taxation.

This theory was used to anchor the variable of enforcement measures in relation to VAT performance. In light of this theory, the enforcement measures at KRA should take into account the ability of taxpayers to pay.
2.3 Conceptual Framework

Figure 2.1 is the conceptual framework of the study.

- **Enforcement measures**
  - Agency notice
  - Use of distraint actions
  - Use of charge or/security on immovable

- **Technological factors**
  - Taxpayers’ technical skills
  - Availability of infrastructures
  - Cost of internet access
  - Taxpayers’ perceptions on i-tax

- **Deterrence measures**
  - VAT rates
  - VAT interests & penalties
  - VAT audits
  - Probability of VAT audit detection

- **VAT Performance**
  - Registration for VAT
  - Filling of VAT returns
  - Payment of VAT

---

2.3.1 Enforcement measures

The enforcement activities focus on taxpayers who are delinquent in meeting their tax obligations. The returns processing and revenue accounting department systemically generates notices to the taxpayer when a balance due condition exists. This occurs when the taxpayer has paid less than the tax due (including any penalties or interest). Similarly, the returns processing and revenue accounting department systemically generates notices to the taxpayer when a required tax return is not timely filed. This occurs as a result of the computer system matching filed tax returns with each taxpayers filing requirements, established when the taxpayer registers with the tax administration (Keen & Smith, 2007). For simple tax returns, the Enforced Collection function may also be given responsibility to prepare the taxpayer's
delinquent return, when the taxpayer does not do so, and sufficient data is available. Where insufficient data is available or an income tax or other complex tax return is involved, the case will be transferred to the audit department. Enforced collection staff must be knowledgeable in tax laws, collection techniques and internal operating procedures. As a cost saving measure, collection staff should employ all office collection methods possible before making field contact with taxpayers. The substructure of the department may contain both office and field collection units. Large and/or complex cases should be assigned to the most experienced staff. Because of the nature of their duties, enforcement collection staff, more than any other employees of the tax administration, will often encounter distraught taxpayers. For this reason, they must possess excellent interpersonal skills (Keen & Smith, 2007).

2.3.2 Technological factors
Small scale taxpayers encounter a challenge of limited knowledge and skills when it comes to IT. On the contrary, the filing and payment of taxes in Kenya is solely conducted through online technologies (Kiaries, 2015). This limits their ability to comply with taxes on account of limited technical skills. Some of the taxpayers are even forced to engage third parties who charge fees that increase the expenses. The existing infrastructures like electricity and the development of an area also support the use of technology by taxpayers when paying for taxes (Edward & Ambrose, 2017). There are some areas that are less developed and very remote and internet connectivity in such regions is a challenge (Muturi, 2015). The available infrastructures in areas would determine the costs likely to be incurred in internet connectivity that is needed to operate online tax systems (Bird, 2014). The perceptions of the taxpayer’s with regard to the existing systems can also influence the adoption of technology thus compliance Mongwaketse (2015 observed that most of the taxpayers have no clear understanding of what e-filing system is.

2.3.3 Deterrent factors
Deterrence is about use of punitive actions to spur tax compliance. This approach can take a number of variables like tax rates, interests and penalties, audits and probability of being detected from the audits (Kuchumova, 2017). The International Monetary Fund (2015) argues that tax system that is characterized by high level of noncompliance require the adoption of deterrence approach. When there is a high probability of being caught on account of tax noncompliance, tax payers will likely be forced to comply (Schmidt & Schneider, 2007).
2.3.4 Value added tax performance

VAT performance is reflected in the targeted against the actual amount collected and remitted to KRA. High performance of VAT arises when targeted VAT is realized after collection has been done. In Kenya, the tax authority has been characterized by consistent failure to meet revenue collection targets as far as VAT is concerned.

2.4 Empirical Review

The section reviews past relevant studies on the objective variables of the study.

2.4.1 Enforcement measures and Value added tax performance

Kiame (2019) sought to bring out the influence of enforcement measures on tax debt revenue realization. Specifically the study sought to assess the effect of issuance of Agency notice, use of distraint actions, use of charge or/security on immovable. Correlation and regression analysis showed a statistically significant positive relationship between the enforcement measures and debt realization. The use of agency notice as an enforcement measures had strong positive relationship ($r= 0.662$, $p>0.05$).

Ndumia (2015) appraised the interplay between enforcement issues and VAT in large taxpayers in Kenyan context. The inquiry embraced audit rate, penalties and criminal sanction as the components of enforcement. The inquiry obtained varying degree of implication of these variables on VAT compliance. In particular, audits and penalties had positive contribution to VAT performance. On the contrary, the nexus between criminal sanctions and VAT performance was inverse.

2.4.2 Technological factors and Value added tax performance

Kamau (2014) conducted an analysis of adoption of technology and its implication on enhancement of compliance with taxes. The emphasis of the inquiry was on larger tax payers at KRA. It was observed from results that adopting technology has a significant and far reaching implication on levels of compliance with VAT. Alm, Beebe, Kirsch, Marian and Soled (2019) did an inquiry whose emphasis was on advancing technologies and their implications on compliance. It was shown that the changing technological landscapes are changing and revolutionizing how tax payers comply with their tax obligations.

Mascagni, Mengistu and Woldeyes (2021) sought to establish whether ICTs could increase tax compliance using evidence on taxpayer responses to technological innovation in Ethiopia.
The study found a positive impact on tax revenue, which increases by at least 12% for income taxes and 48% for VAT. However, taxpayers respond by simultaneously adjusting both reported sales and costs, thus yielding net revenue gains that are proportionally lower than the increase in sales. Night and Bananuka (2019) analyzed the nexus between taxpayer’s attitudes in regard to electronic tax system and the behavior when it comes to compliance. It was shown that having in place positive attitude among taxpayers would lead towards an enhancement in the general and overall compliance attitude.

Mukuwa and Phiri (2019) did an inquiry whose emphasis was on e-services and gathering of tax revenue all in liaison with compliance with taxes among SMEs. The specific emphasis of the inquiry was on developing states. It emerged from analysis that the introduction of e-services had led to an increase in revenues gathered from the SMEs.

2.4.2 Deterrent factors and Value added tax performance

Dularif, Sutrisno and Saraswati (2019) was interested to establish whether deterrence approach was effective in combating tax evasion. Theoretically, increasing audit, tax rate and tax penalty will decrease tax evasion. However, the results show that only tax rate has a significant impact on tax evasion. Synthesizing totally 478 outcomes from articles published between 1978 and 2018, there is a robust conclusion that decreasing tax rate is an effective tool in combating tax evasion. On the other hand, audit and penalty are not significant in influencing tax evasion. In addition, the results of heterogeneity analysis suggest that national culture and income level of the country are useful in explaining the impact of audit, tax rate and tax penalty on tax evasion. These findings should be of interest to policymakers. First, instead of sacrificing more resources in conducting audit or imposing more penalty, tax authorities should consider setting the tax rate as low as possible to diminish tax evasion. Second, considering that culture and income level influence the impact of audit and penalty on tax evasion, policymakers should consider national cultural values and income level condition when designing audit techniques and setting penalty structures.

Carvalho and Pacheco (2014) studied tax compliance, corruption and deterrence. Findings suggest that trust in authorities and their capacity to deter and punish tax evaders are interrelated and that both are important in securing tax compliance. Findings are discussed in the current Portuguese context. Feld and Frey (2003) conducted a study on deterrence and tax morale. Using data for Swiss cantons and five different years from the period 1970 to 1995, the study establish a systematic relationship between external intervention (in this case, how
the tax officials deal with taxpayers) and intrinsic motivation (in this case, individuals’ tax morale). Anyaduba, Eragbhe and Kennedy (2014) studied impact of deterrent tax policies on tax compliance in Nigerian experience. It was observed that the existing deterrent tax policies in Nigeria are inadequate and have not helped to promote tax compliance in the country. It was also discovered that fostering voluntary compliance and enhancing taxpayer’s morale will enhance tax compliance.

Ortega and Sanguinetti (2013) conducted an inquiry deterrence and reciprocity effects on tax compliance: experimental evidence from Venezuela. The study found that an enforcement message (that increases the perceived probability of detection) has the largest compliance effect, a message highlighting the public goods and services provided by the local government (and that affect businesses directly) has the second largest effect and that other messages have much smaller effects on compliance. In addition, the reciprocity message seems to have more lasting impacts than the enforcement message. Chauke and Sebola (2016) reflected on the deterrence theory of taxation in the context of revenue collection by municipalities and the South African Revenue Services. The paper concludes that the deterrence theory is the most applicable in the municipalities and the South African Revenue Service revenue collection strategies as taxpayers and ratepayers do not pay rates and taxes willingly but coerced.

2.5 Critique of the Literature Relevant to the Study

Kiame (2019) showed a statistically significant positive relationship between the enforcement measures and debt realization. Ndumia (2015) shared that enforcement measures such as audit rate, imposition of penalties, criminal sanctions and another determinant of VAT revenue; the contribution of imports to VAT revenue, had varying degrees of relationship to the Value Added Tax revenue for firms in the large corporate taxpayer category. Kamau (2014) indicated that the adoption of technology as a strategic tool by The Kenya Revenue Authority has led to increased compliance levels by the large taxpayers. Mascagni, Mengistub and Woldeyes (2021) found a positive impact on tax revenue, which increases by at least 12% for income taxes and 48% for VAT. Night and Bananuka (2019) indicate that adoption of electronic tax system and attitude towards electronic tax system are significantly associated with tax compliance. Mukuwa and Phiri (2019) showed that performance expectancy, effort expectancy and social Influence affect SMEs’ behavioral intention to use eservices. Dularif, Sutrisno and and Saraswati (2019) established that audit and penalty are not significant in influencing tax evasion.
Frey and Feld (2002) showed that when tax officials solely rely on deterrence taxpayers tend to respond by actively trying to avoid taxation. Carvalho and Pacheco (2014) suggest that trust in authorities and their capacity to deter and punish tax evaders are interrelated and that both are important in securing tax compliance. Findings are discussed in the current Portuguese context. Feld and Frey (2003) establish a systematic relationship between external intervention (in this case, how the tax officials deal with taxpayers) and intrinsic motivation (in this case, individuals’ tax morale). Anyaduba, Eragbhe and Kennedy (2014) observed that the existing deterrent tax policies in Nigeria are inadequate and have not helped to promote tax compliance in the country. Ortega and Sanguinetti (2013) found that an enforcement message (that increases the perceived probability of detection) has the largest compliance effect, a message highlighting the public goods and services provided by the local government (and that affect businesses directly) has the second largest effect and that other messages have much smaller effects on compliance. In addition, the reciprocity message seems to have more lasting impacts than the enforcement message.

2.6 Summary


2.7 Research Gaps

Kiame (2019) used tax debt revenue realization as the dependent variable and the present study will built on this to illustrate how issuance of Agency notice, use of distraint actions, use of
charge or/security on immovable contribute towards VAT performance. Kamau (2014) used a case study of large taxpayers of Kenya Revenue Authority while the present study will specifically focus on medium sized firms in Nyeri. Alm, Beebe, Kirsch, Marian and Soled (2019) looked at tax compliance as the dependent variable and not specifically VAT performance. Mascagni, Mengistub and Woldeyes (2021) used a case of Ethiopia and not in Kenya. Night and Bananuka (2019) focused on electronic tax system as a mediator variable unlike the present study that will cover it under the broad technological factors. Mukuwa and Phiri (2019) concentrated on tax compliance as the dependent variable and not VAT compliance. Dularif, Sutrisno and and Saraswati (2019) used tax evasion as dependent while the present study will focus on VAT performance. Carvalho and Pacheco (2014) discussed the current Portuguese context and not in Kenyan context. Anyaduba, Eragbhe and Kennedy (2014) used tax compliance and not VAT performance. Ortega and Sanguinetti (2013) conducted a study in Venezuela and not in Kenya. Chauke and Sebola (2016) focused on South African Revenue Services and not the KRA.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

The chapter is set out to detail the research design and target population as well as sampling frame, sample size and sampling technique.

3.2 Research Design

A research design is a plan, structure and strategy of investigation so conceived as to obtain answers to research questions or problems. The plan is the complete scheme or program of the research (Kumar, 2011). This study adopted a descriptive survey design to achieve the stated objectives. Kothari (2004) share that a descriptive design is ideal when the researcher seeks to describe and provide an account of things the way they exist in their original state. This design helped the researcher to describe the factors that inform VAT performance.

3.3 Target Population

The target population which is the universe or the entire group of persons or elements from which samples are taken (Kombo & Tromp, 2006). According to Yin (2017), population is the aggregate of all the elements that share some common set of characteristics and that comprise the universe for the purpose of the research problem. The population that is being studied is also called target population. This study targeted 350 medium enterprises in Nyeri town and it’s environ as summarized in Table 3.1.

<table>
<thead>
<tr>
<th>Target Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardwares</td>
</tr>
<tr>
<td>Hotels</td>
</tr>
<tr>
<td>Retailers/supermarkets</td>
</tr>
<tr>
<td>Pharmacies &amp; Chemists</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Source: KRA (2020)

3.4 Sampling Frame

Sampling frame is a list of elements that the researcher is interested in to obtain the sample so as to generalize the findings of the study on (Yin, 2015). In this study, the sampling frame was the list of medium sized firms operating in Nyeri County available at the KRA.
3.5 Sample Size and Sampling Technique

3.5.2 Sample Size

Sample size calculation is very important for research studies where samples were required if the research population size is large, then the costs involved in collecting data from all subjects would automatically be high. In this respect, determination of the appropriate sample size is significant to achieve the research objective. The sample size of the study was scientifically determined with the following formula by Kothari (2004) as follows:

\[
 n = \frac{Z^2 \cdot N \cdot \sigma^2}{(N - 1)e^2 + Z^2 \cdot \sigma^2 \rho}
\]

Where; \( n \) = Size of the sample,
\( N \) = Size of the population and given as 252,
\( e \) = Acceptable error and given as 0.05,
\( \sigma \rho \) = the standard deviation of the population and given as 0.5 where not known,
\( Z \) = Standard deviation at a confidence level given as 1.96 at 95% confidence level

\[
 n = \frac{1.96^2 \cdot 350 \cdot 0.5^2}{(350-1)0.05^2 + 1.96^2 \cdot 0.5^2}
\]

\[
 n = \frac{336.14}{(349)0.0025+.9604}
\]

\[
 n = 183 \text{ respondents}
\]

3.5.2 Sampling Technique

Sampling entails the selection of part of the population that represents the characteristics of the entire group (Kothari, 2004). Sampling is advantageous in the sense that it saves on time and cost since it is easier to deal with the small group (sample) that represents an entire population.
than analyzing the whole group of interest. The study adopted stratified random sampling to select respondents as summarized in Table 3.2.

### Table 3.2: Sampling Technique

<table>
<thead>
<tr>
<th>Target Population</th>
<th>Sample proportion (%)</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardwares</td>
<td>85/350*100%=24.3%</td>
<td>24.3%*183=44</td>
</tr>
<tr>
<td>Hotels</td>
<td>95/350*100%=27.1%</td>
<td>27.1%*183=50</td>
</tr>
<tr>
<td>Retailers/supermarkets</td>
<td>80/350*100%=22.9%</td>
<td>22.9%*183=42</td>
</tr>
<tr>
<td>Pharmacies &amp; Chemists</td>
<td>90/350*100%=25.7%</td>
<td>25.7%*183=47</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>350</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Source: KRA (2020)

### 3.6 Data Collection Procedure

The researcher obtained a letter of introduction from KESRA. Before gathering of data, the questionnaire will be piloted to establish reliability and validity. During data collection, the researcher first sought an appointment with the managers and requested them to allow for the administration of the questionnaire to the respondents in their stations. After identification of the sample respondents in every station, a brief introduction of the study was done during which drop and pick method was the most preferred. They were allowed one week to respond after which the questionnaires will be picked for data analysis.

### 3.7 Data Collection Instrument

The study adopted primary data collection techniques. Primary data collection was collected through self-administered questionnaires that comprised closed ended questions with information on factors affecting VAT performance. The questionnaire was structured into sections based on the objectives that guided the study. A Likert scale was used in the questionnaire to ensure that respondents were guided when answering the questions and avoid bias. A Likert scale is effective in research studies because it helps when a behavior is being evaluated (Stoecker, 2012).

### 3.8 Pilot Testing

Prior to actual data collection, the questionnaire was piloted among 10 respondents who were not included in the final study. This helped to avoid possible biasness. The essence of running a pilot study was to determine reliability and validity of the questionnaire.
3.8.1 Validity of the Study Instrument

Validity is the extent to which a research instrument measures what it ought to measure (Kothari, 2004). In this reason the term validity refers the degree to which an instrument asks the right questions in terms of accuracy. Validity of the research instrument was determined in two ways. First, the questions in the questionnaires were discussed with the supervisor and the tax administration professionals. Secondly, the researcher ran a pilot test of the questionnaire to make sure it was understandable and acceptable to the intended audience. This helped to redefine the emerging issues on the study instruments.

3.8.2 Reliability of Study Instrument

Reliability of an instrument is the measure of the degree to which a research instrument yields consistent results or data after repeated trials (Mugenda, 2003). Bless and Higson-Smith (1995) highlight that reliability is “concerned with the consistency of measures”, thus, the level of an instrument’s reliability is dependent on its ability to produce the same score when used repeatedly (Babbie and Mouton, 1998). According to Bryma and Bell (2003), the Cronbach’s Alpha result of 0.7 and above implies acceptable level of internal reliability.

3.9 Data Analysis and Presentation

Data analysis refers to steps undertaken once information has been gathered from the respondents (Yin, 2015). The analysis of the collected data was done using means and standard deviations as descriptive statistics. Besides, inferential statistics were adopted covering regression analysis with the model as specified under:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \]

Where \( Y \) = VAT performance

\( \beta_0 \) = Constant

\( \beta_1, \beta_2, \) and \( \beta_3 \) are Coefficients

\( \varepsilon \) = error term

\( X_1 = \) Enforcement measures

\( X_2 = \) Technological factors

\( X_3 = \) Deterrent factors
3.9.1 Diagnostic Tests

Before carrying out regression analysis, diagnostic tests were done to validate the assumptions of regression analysis. The specific diagnostic tests that were conducted include multicollinearity and normality. Variance of Inflation Factors (VIF) helped to test for multicollinearity and Shapiro-Wilk tested for normality.

3.9.2 Operationalization of the Variables

Table 3.3 shows how the variables of the study were operationalized

<table>
<thead>
<tr>
<th>Type of Variable</th>
<th>Indicators</th>
<th>Scale of measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enforcement measures</td>
<td>• Agency notice</td>
<td>5-Point Likert scale</td>
</tr>
<tr>
<td></td>
<td>• Use of distraint actions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• use of charge or/security on immovable</td>
<td></td>
</tr>
<tr>
<td>Technological factors</td>
<td>• Taxpayers’ technical skills</td>
<td>5-Point Likert scale</td>
</tr>
<tr>
<td></td>
<td>• Availability of infrastructures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Cost of internet access</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Taxpayers’ perceptions on i-tax</td>
<td></td>
</tr>
<tr>
<td>Deterrence measures</td>
<td>• VAT rates</td>
<td>5-Point Likert scale</td>
</tr>
<tr>
<td></td>
<td>• VAT interests &amp; penalties</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• VAT audits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Probability of VAT audit detection</td>
<td></td>
</tr>
<tr>
<td>VAT Performance</td>
<td>• Registration for VAT</td>
<td>5-Point Likert scale</td>
</tr>
<tr>
<td></td>
<td>• Filling of VAT returns</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Payment of VAT</td>
<td></td>
</tr>
</tbody>
</table>

Source: KRA (2020)
CHAPTER FOUR
DATA ANALYSIS AND DISCUSSION

4.1 Introduction

The chapter details the findings of analysis informed by the research questions. The specific contents in this chapter include the response rate, reliability results, the analysis of the general information, descriptive statistics, diagnostic tests and inferential statistics.

4.2 Response Rate

From the 183 questionnaires that were administered to participants, 119 were dully filled and returned representing a response rate of 65%. The response rate was consistent with Yin (2015) who shared that an above 60% response is good to support the analysis of the findings.

4.3 Reliability Test Results

Reliability of an instrument is the measure of the degree to which a research instrument yields consistent results or data after repeated trials (Mugenda, 2003). Reliability of the questionnaire in this study was determined on the basis of the pilot study and the findings summarized as indicated in Table 4.1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>No of Items</th>
<th>Cronbach’s Alpha Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enforcement measures</td>
<td>4</td>
<td>.765</td>
</tr>
<tr>
<td>Technological factors</td>
<td>6</td>
<td>.883</td>
</tr>
<tr>
<td>Deterrence measures</td>
<td>5</td>
<td>.779</td>
</tr>
<tr>
<td>VAT Performance</td>
<td>4</td>
<td>.831</td>
</tr>
</tbody>
</table>

Table 4.1 indicate that all the variables had Cronbach Alpha coefficients above 0.7, which was sufficient to conclude that the questionnaire used in the study was designed using a reliable scale. This finding is supported by Bryma and Bell (2003) who observed that the Cronbach’s Alpha result of 0.7 and above implies acceptable level of internal reliability.

4.4 General Information

The study sought to collect and appreciate the general information of the respondents in terms of their gender, level of education as well as years of organizational existence as summarized in Table 4.3.
Table 4.2: General Information

<table>
<thead>
<tr>
<th>Category</th>
<th>Classification</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>93</td>
<td>78.2</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>26</td>
<td>21.8</td>
</tr>
<tr>
<td>Level of education</td>
<td>Certificate</td>
<td>16</td>
<td>13.4</td>
</tr>
<tr>
<td></td>
<td>Diploma</td>
<td>58</td>
<td>48.7</td>
</tr>
<tr>
<td></td>
<td>First Degree</td>
<td>45</td>
<td>37.8</td>
</tr>
<tr>
<td>Years of Operation</td>
<td>Less than 6 years</td>
<td>10</td>
<td>8.4</td>
</tr>
<tr>
<td></td>
<td>7-12 years</td>
<td>48</td>
<td>40.3</td>
</tr>
<tr>
<td></td>
<td>13-18 years</td>
<td>50</td>
<td>42.0</td>
</tr>
<tr>
<td></td>
<td>Over 19 years</td>
<td>11</td>
<td>9.2</td>
</tr>
</tbody>
</table>

The findings in Table 4.2 are further illustrated graphically in Figures 4.1, 4.2 and 4.3 respectively.

Figure 4.1: Gender Distribution

Figure 4.1 indicate that majority of the respondents (78.2%) while 21.8% were female. This means that both male and female respondents were involved in the study hence representative views were sought from them.

Figure 4.2: Level of Education

Figure 4.2 show that while 48.7% of the respondents had diplomas, 13.4% had certificates. It then follows that respondents who took part in the study were generally learnt and could read and interpret the research questions as it was required in this study.
The findings in Figure 4.3 indicate that while 42% of the studies firms had been in operations for 13-18 years, 8.4% had operated for less than 6 years. Thus, there was a blend of relatively new and the experienced as well as more stable firms that had been in operation for a significant amount of time.

4.4 Descriptive Statistics

The subsequent sections detail the descriptive statistics on the objective variables that were covered in this inquiry:

4.4.1 Enforcement Measures

Table 4.3 is a breakdown of the results of descriptive statistics on enforcement measures.

<table>
<thead>
<tr>
<th>Enforcement Measures</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would file pay VAT on time if there were no agency notice</td>
<td>3.7647</td>
<td>.75583</td>
</tr>
<tr>
<td>Agency notice can be served to our firm if this firm does not pay VAT</td>
<td>3.6807</td>
<td>.71227</td>
</tr>
<tr>
<td>The firm is unlikely to face distraint actions</td>
<td>3.7815</td>
<td>.48989</td>
</tr>
<tr>
<td>Immovable assets of this firm are unlikely to be placed as security for failing to pay VAT</td>
<td>3.8571</td>
<td>.60065</td>
</tr>
</tbody>
</table>

Table 4.3 indicate that respondents were in agreement that immovable assets of their firm were unlikely to be placed as security for failing to pay VAT (M=3.8571, SD=.60065) and that their firm was unlikely to face distraint actions (M=3.7815, SD=.48989). Thus, use of security on
immovable assets and the use of distraint actions were instrumental enforcement measures that were embraced by KRA to drive tax performance. Respondents observed that they would file pay VAT on time if there were no agency notice (M=3.7647, SD=.75583) and that agency notice could be served to firm if the firm did not pay VAT (M=3.6807, SD=.71227). This implies that agency notices was an enforcement measure that KRA leveraged to enhance VAT performance. The above findings are consistent with Nyaoke (2007) who observed that enforcement tools vary with their level of effectiveness and they include use of agency notice, use of distraint action, charge/security on immovable property and court suit among others.

4.4.2 Technological Factors

Table 4.4 is an overview of the results technological factors.

<table>
<thead>
<tr>
<th>Table 4.4: Technological Factors</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know how to file VAT returns online</td>
<td>3.8908</td>
<td>.59361</td>
</tr>
<tr>
<td>I know how to pay VAT through i-tax system</td>
<td>3.7227</td>
<td>.91062</td>
</tr>
<tr>
<td>I can be facilitated to file VAT through the available KRA centers</td>
<td>4.1849</td>
<td>.53625</td>
</tr>
<tr>
<td>I can file VAT returns from the nearby cyber cafes</td>
<td>3.9244</td>
<td>.71497</td>
</tr>
<tr>
<td>I would file VAT returns on time if the costs of data bundles were reduced</td>
<td>3.5630</td>
<td>.80925</td>
</tr>
<tr>
<td>It is easy to file tax returns through i-tax</td>
<td>3.8403</td>
<td>.92958</td>
</tr>
</tbody>
</table>

Respondents agreed that they could be facilitated to file VAT through the available KRA centers (M=4.1849, SD=.53625) and that they could file VAT returns from the nearby cyber cafes (M=3.9244, SD=.71497). This implies that KRA centers and cyber cafes were relevant technological platforms that had been put in place to drive VAT performance. It was noted that respondents knew how to file VAT returns online (M=3.8908, SD=.59361) and that it was easier to file tax returns through i-tax (M=3.8403, SD=.92958). This means that the i-tax system as an aspect of technology adopted at KRA had led to online filing and payment of taxes by the taxpayers. It was noted that respondents knew how to pay VAT through i-tax system (M=3.7227, SD=.91062) and they would file VAT returns on time of the costs if data bundles were reduced (M=3.5630, SD=.80925). This means that although technology had been adopted in tax administration by KRA, it was associated with some constraints in terms of the cost of internet bundles. The finding is consistent with (Kiaries, 2015) who shared that most government entities are embracing technology thus this sector has no choice but to look for ways to be able to adjust and fit into the modifications in law.
4.4.3 Deterrent Factors

The findings of descriptive statistics on deterrent factors were determined and presented as shown in Table 4.5.

Table 4.5: Deterrence Factors

<table>
<thead>
<tr>
<th>Description</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would pay more VAT if the rate would be lowered</td>
<td>3.8992</td>
<td>.86744</td>
</tr>
<tr>
<td>I file VAT returns to avoid interests</td>
<td>3.9076</td>
<td>1.03327</td>
</tr>
<tr>
<td>I pay VAT on time to avoid penalties</td>
<td>3.7479</td>
<td>1.00185</td>
</tr>
<tr>
<td>I pay VAT because this firm is likely to be selected for auditing</td>
<td>3.9748</td>
<td>.78613</td>
</tr>
<tr>
<td>Failing to pay VAT can easily be detected in this firm</td>
<td>3.7563</td>
<td>.70068</td>
</tr>
</tbody>
</table>

The results in Table 4.5 show that respondents paid VAT because their firm was likely to be selected for auditing (M=3.9748, SD=.78613) and that they filed VAT returns to avoid interests (M=3.9076, SD=1.03327). This means that the high probability of audit and interests were conspicuous deterrent measures that KRA leveraged to instill tax compliance culture among the taxpayers. Participants were in agreement that they would pay more VAT if the rate would be lowered (M=3.8992, SD=.86744) and that failing to pay VAT could easily be detected (M=3.7563, SD=.70068). This means that the tax rate and probability of detection were perceived by the taxpayers to be high as a way of deterring noncompliance behavior of the taxpayers. It was reported by the respondents that they paid VAT on time to avoid penalties (M=3.7479, SD=1.00185). This implies that penalties were instrumental in deterring tax non-compliance among the taxpayers. The theoretical approaches of tax compliance have commonly been divided into economic deterrence theory and the wider behavioral theory (Kuchumova, 2017). The behavioral theory encompassed the social and fiscal psychological theories. The use of deterrence theory model was mainly prevalent in the examination of tax evasion (Frey & Feld, 2002:7). The theory can be achieved through a number of approaches and these could be both punitive and persuasive. In the use of the punitive nature of the deterrence theory, it can take the form of increasing the probability of being detected and increasing the tax rate or alternatively through the imposition of tougher penalties. It can also take a form of providing better taxpayer education and increased advertising of incentives in instances of being compliant (Frey & Feld, 2002:7; Sandmo, 2004:7; Feld, Schmidt & Schneider, 2007).

4.5 Diagnostic Tests

Diagnostic tests were conducted to validate the assumptions of regression analysis and they covered multicolinearity and normality tests.
4.5.1 Multicolinearity Test

Table 4.6 is a summary of the findings of multicolinearity test that was determined through VIF values.

<table>
<thead>
<tr>
<th></th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enforcement Measures</td>
<td>.940</td>
<td>1.064</td>
</tr>
<tr>
<td>Technological Factors</td>
<td>.912</td>
<td>1.097</td>
</tr>
<tr>
<td>Deterrent Factors</td>
<td>.944</td>
<td>1.060</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td><strong>.932</strong></td>
<td><strong>1.074</strong></td>
</tr>
</tbody>
</table>

Table 4.6 gives the mean VIF value of 1.074, with the individual values being less than 2 for the study variables. When interpreting the VIF values, Yin (2017) contends that the values in the range of 1-10 provide an indication of absence of multicolinearity in the data. Thus, the data used in the study did not have symptoms of multicolinearity.

4.5.2 Normality Test

This test was meant to determine if the data had a normal distribution and it was achieved through Shapiroi-Wilk test as summarized in Table 4.7.

<table>
<thead>
<tr>
<th></th>
<th>Statistic</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Added Tax Performance</td>
<td>.914</td>
<td>10</td>
<td>.311</td>
</tr>
<tr>
<td>Enforcement Measures</td>
<td>.827</td>
<td>4</td>
<td>.161</td>
</tr>
<tr>
<td>Technological Factors</td>
<td>.318</td>
<td>5</td>
<td>.109</td>
</tr>
<tr>
<td>Deterrent Factors</td>
<td>.211</td>
<td>14</td>
<td>.093</td>
</tr>
</tbody>
</table>

From Table 4.7, all the variables have p-values p>0.05. This is a clear indication that there normality in the data used in this study which is a desirable attribute for regression analysis. As argued by Kothari (2004), p-values in Shapiro Wilk above 0.05 signify the data is normal distribution.

4.6 Inferential Statistics

Correlation and regression analysis were the key inferential statistics that were adopted in this study with the results as summarized in the subsequent sections
4.6.1 Correlation Matrix

The findings of correlation analysis were determined and reported as shown in Table 4.8.

<table>
<thead>
<tr>
<th>Table 4.8: Correlation Matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAT Performance</td>
</tr>
<tr>
<td>VAT Performance Correlation</td>
</tr>
<tr>
<td>Enforcement Measures Correlation</td>
</tr>
<tr>
<td>Technological Factors Correlation</td>
</tr>
<tr>
<td>Deterrence Factors Correlation</td>
</tr>
</tbody>
</table>

Table 4.8 show that enforcement measures are strong and positive correlates of VAT performance (r=0.719). This means that strengthening the enforcement measures by KRA would result into an improvement in VAT performance. The finding is consistent with Kiame (2019) who sought to bring out the influence of enforcement measures on tax debt revenue realization where correlation and regression analysis showed a statistically significant positive relationship between the enforcement measures and debt realization and that the use of agency notice as an enforcement measures had strong positive relationship (r= 0.662, p>0.05).

On the other hand, deterrent factors were seen to have a positive and moderate relationship with VAT performance (r=0.324). Dularif, Sutrisno and and Saraswati (2019) shared that decreasing tax rate is an effective tool in combating tax evasion. On the other hand, audit and penalty are not significant in influencing tax evasion. In addition, the results of heterogeneity analysis suggest that national culture and income level of the country are useful in explaining the impact of audit, tax rate and tax penalty on tax evasion. Carvalho and Pacheco (2014) suggest that trust in authorities and their capacity to deter and punish tax evaders are interrelated and that both are important in securing tax compliance. Findings are discussed in the current Portuguese context. Anyaduba, Eragbhe and Kennedy (2014) observed that the existing deterrent tax policies in Nigeria are inadequate and have not helped to promote tax compliance in the country. Ortega and Sanguinetti (2013) an enforcement message (that increases the perceived probability of detection) has the largest compliance effect, a message highlighting the public goods and services provided by the local government (and that affect businesses directly) has the second largest effect and that other messages have much smaller effects on compliance. Chauke and Sebola (2016) shared that the deterrence theory is the most
The study observed that technological factors have weak but positive relationship with VAT performance \( (r=0.269) \). Similarly, Kamau (2014) revealed that the large taxpayers feel that the technology has helped them to easily comply with the tax laws i.e. filing returns and making payments in time hence increasing their tax compliance levels. Night and Bananuka (2019) indicate that adoption of electronic tax system and attitude towards electronic tax system are significantly associated with tax performance.

### 4.6.2 Regression Results

The findings of the regression model summary were determined and presented as shown in Table 4.9.

**Table 4.9: Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.733</td>
<td>.537</td>
<td>.525</td>
<td>1.47942</td>
</tr>
</tbody>
</table>

Table 4.9 indicates that 53.7% change in VAT performance among medium sized firms in Nyeri is explained by enforcement measures, technological factors as well as deterrent factors. Thus, aside from these factors, there are still other issues that explain 46.3% of VAT performance of these firms and this require further research to bring them out. Table 4.10 is an overview of the ANOVA findings.

**Table 4.10: ANOVA Findings**

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>291.579</td>
<td>3</td>
<td>97.193</td>
<td>44.407</td>
</tr>
<tr>
<td>Residual</td>
<td>251.699</td>
<td>115</td>
<td>2.189</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>543.277</td>
<td>118</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results in Table 4.10 indicate that the overall regression model used in this study was statistically significant \( (F=44.407, p<0.05) \). The findings of the regression beta coefficients and significance were determined and summarized as indicated in Table 4.11.
Table 4.11: Beta Coefficients and Significance

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>t</td>
</tr>
<tr>
<td>(Constant)</td>
<td>7.396</td>
<td>2.481</td>
<td>2.981</td>
<td>3.407</td>
</tr>
<tr>
<td>Enforcement Measures</td>
<td>0.368</td>
<td>0.108</td>
<td>0.702</td>
<td>3.407</td>
</tr>
<tr>
<td>Technological Factors</td>
<td>0.124</td>
<td>0.043</td>
<td>0.113</td>
<td>2.884</td>
</tr>
<tr>
<td>Deterrent Factors</td>
<td>0.149</td>
<td>0.048</td>
<td>0.067</td>
<td>3.104</td>
</tr>
</tbody>
</table>

Table 4.11 leads to the following equation:

\[ Y = 7.396 + 0.368X_1 + 0.124X_2 + 0.149X_3 \]

Where \( Y \) = VAT performance

\( B_0 \) = Constant

\( \beta_1, \beta_2, \) and \( \beta_3 \) are Coefficients

\( \varepsilon \) = error term

\( X_1 \) = Enforcement measures

\( X_2 \) = Technological factors

\( X_3 \) = Deterrent factors

Table 4.11 implies that relaxing the identified factors would lead to VAT performance among medium enterprises in Nyeri County by 7.396 units. Improving enforcement measures by a unit would lead to 0.368 unit increment in VAT performance among medium enterprises in Nyeri County. An improvement in technological factors by a unit would mean 0.124 unit increment in VAT performance among medium enterprises in Nyeri County. Strengthening the deterrent factors by a unit would mean 0.149 unit improvement in VAT performance among medium enterprises in Nyeri County.

Taking the level of significance as 0.05, the study noted that enforcement measures are significant predictors of VAT performance among medium enterprises in Nyeri County (\( p<0.05 \)). The finding is consistent with Kiame (2019) who sought to bring out the influence of enforcement measures on tax debt revenue realization where correlation and regression analysis showed a statistically significant positive relationship between the enforcement measures and debt realization. The use of agency notice as an enforcement measures had strong positive relationship \( (r = 0.662, p>0.05) \). Ndumia (2015) did an assessment of the effect of enforcement measures on value added tax revenue for firms in the large corporate taxpayer category in Kenya where the findings from the study showed that enforcement measures such
as audit rate, imposition of penalties, criminal sanctions and another determinant of VAT revenue; the contribution of imports to VAT revenue, had varying degrees of relationship to the Value Added Tax revenue for firms in the large corporate taxpayer category.

It was noted that technological factors have significant effect on VAT performance among medium enterprises in Nyeri County (p<0.05). This finding contradicts Kiaries (2015) who established that there is no effect of online tax remittance on tax compliance. The finding however agree with Kamau (2014) who revealed that the large taxpayers feel that the technology has helped them to easily comply with the tax laws i.e. filing returns and making payments in time hence increasing their tax compliance levels. Night and Bananuka (2019) indicate that adoption of electronic tax system and attitude towards electronic tax system are significantly associated with tax compliance.

The study observed that deterrent factors are significant enablers of VAT performance among medium enterprises in Nyeri County (p<0.05). The finding is empirically consistent with Dularif, Sutrisno and and Saraswati (2019) who shared that decreasing tax rate is an effective tool in combating tax evasion. On the other hand, audit and penalty are not significant in influencing tax evasion. In addition, the results of heterogeneity analysis suggest that national culture and income level of the country are useful in explaining the impact of audit, tax rate and tax penalty on tax evasion. Carvalho and Pacheco (2014) suggest that trust in authorities and their capacity to deter and punish tax evaders are interrelated and that both are important in securing tax compliance. Findings are discussed in the current Portuguese context. Anyaduba, Eragbhe and Kennedy (2014) observed that the existing deterrent tax policies in Nigeria are inadequate and have not helped to promote tax compliance in the country. Ortega and Sanguinetti (2013) an enforcement message (that increases the perceived probability of detection) has the largest compliance effect, a message highlighting the public goods and services provided by the local government (and that affect businesses directly) has the second largest effect and that other messages have much smaller effects on compliance. Chauke and Sebola (2016) shared that the deterrence theory is the most applicable in the municipalities and the South African Revenue Service revenue collection strategies as taxpayers and ratepayers do not pay rates and taxes willingly but coerced.
CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction
The chapter details a summary of the analyzed results and conclusion. The recommendations are also raised and the areas of further research are also pointed out.

5.2 Summary
The subsequent sections detail a summary of the findings of the study:

5.2.1 Enforcement Measures
Descriptive statistics indicated that immovable assets of their firm were unlikely to be placed as security for failing to pay VAT and that their firm was unlikely to face distraint actions. Thus, use of security on immovable assets and the use of distraint actions were instrumental enforcement measures that were embraced by KRA to drive tax performance. Based on correlation analysis, enforcement measures were strong and positive correlates of VAT performance. The study noted that enforcement measures are significant predictors of VAT performance among medium enterprises in Nyeri County.

5.2.2 Technological Factors
Respondents agreed that they could be facilitated to file VAT through the available KRA centers and that they could file VAT returns from the nearby cyber cafes. This implies that KRA centers and cyber cafes were relevant technological platforms that had been put in place to drive VAT performance. Based on correlation analysis, the study observed that technological factors have weak but positive relationship with VAT performance. It was noted that technological factors have significant effect on VAT performance among medium enterprises in Nyeri County.

5.2.3 Deterrent Factors
The results show that respondents paid VAT because their firm was likely to be selected for auditing and that they filed VAT returns to avoid interests. This means that the high probability of audit and interests were conspicuous deterrent measures that KRA leveraged to instill tax compliance culture among the taxpayers. It was observed from correlation analysis that deterrent factors were seen to have a positive and moderate relationship with VAT
performance. The study observed that deterrent factors are significant enablers of VAT performance among medium enterprises in Nyeri County.

5.3 Conclusion

5.3.1 Enforcement Measures

Enforcement measures were strong and positive correlates of VAT performance. Enforcement measures are significant predictors of VAT performance among medium enterprises in Nyeri County. Immovable assets of their firm were unlikely to be placed as security for failing to pay VAT and that their firm was unlikely to face distraint actions.

5.3.2 Technological Factors

Technological factors have weak but positive relationship with VAT performance. Technological factors have significant effect on VAT performance among medium enterprises in Nyeri County. Taxpayers were facilitated to file VAT through the available KRA centers and that they filed VAT returns from the nearby cyber cafes.

5.3.3 Deterrent Factors

The results show that respondents paid VAT because their firm was likely to be selected for auditing and that they filed VAT returns to avoid interests. This means that the high probability of audit and interests were conspicuous deterrent measures that KRA leveraged to instill tax performance culture among the taxpayers. It was observed from correlation analysis that deterrent factors were seen to have a positive and moderate relationship with VAT performance. The study observed that deterrent factors are significant enablers of VAT performance among medium enterprises in Nyeri County.

5.4 Recommendations of the Study

5.4.1 Enforcement Measures

The Enforcement Managers and Officers at KRA should diversify and modify the existing enforcement measures to enhance VAT performance. Fairness should be exercised when administering the tax enforcement measures like the use of distraint actions.
5.4.2 Technological Factors

The ICT managers should enhance and reconfigure the existing technological platforms like i-tax so that they are more user-friendly. The senior managers at KRA should work to increase the number of tax centers in the country.

5.4.3 Deterrent Factors

The deterrent measures at KRA should continuously be reviewed to ensure they realize their intended purpose. More deterrent measures should be put in place to deter taxpayers from evading taxes.

5.5 Areas for Further Research

The findings of regression analysis in the present study indicated an R square value of 0.537; this means that there are other factors apart from those that were covered in this study that have an influence on VAT performance. Thus, the main focus of further studies should be on establishing these other additional factors. Furthermore, future studies can be conducted focusing on other tax heads aside from VAT. This will give room for comparison of the results.
REFERENCES


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APPENDICES

Appendix I: Letter of Introduction

Dear Respondent,

RE: DATA COLLECTION

I am a student at KESRA and as a requirement for the award of a Postgraduate Diploma in Tax Administration; I am currying out a study on FACTORS AFFECTING VALUE ADDED TAX PERFORMANCE IN NYERI COUNTY, KENYA. It is my humble request to you to fill in the attached questionnaire. The information you give will be treated with the utmost confidentiality and the results shall be for academic purposes only.

Your kind co-operation will be highly appreciated.

Yours Sincerely,

Benedetta Munyiva Maingi
Appendix II: Questionnaire

SECTION A: General Information

1. What is your gender?
   - Male [ ]
   - Female [ ]

2. What is your highest level of education?
   - Certificate [ ]
   - Diploma [ ]
   - First Degree [ ]
   - Masters [ ]
   - Other……………………..

3. Kindly indicate the number of years your firm has been in operation
   - Less than 6 years [ ]
   - 7-12 years [ ]
   - 13-18 years [ ]
   - Over 19 years [ ]

SECTION B: Enforcement measures (Provide responses by ticking appropriate answers)

6. To what extent do you agree with the following statements on enforcement measures, where:
   1= Strongly Disagree (SD) 2=Disagree (D) 3= Neutral (N) 4= Agree (A) 5= Strongly Agree (SA)

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would file pay VAT on time if there were no agency notice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency notice can be served to our firm if this firm does not pay VAT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The firm is unlikely to face distraint actions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immovable assets of this firm are unlikely to be placed as security for failing to pay VAT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION C: Technological factors (Provide responses by ticking appropriate answers)
7. To what extent do you agree with the following statements on technological factors, Where:
1= Strongly Disagree (SD) 2=Disagree (D) 3= Neutral (N) 4= Agree (A) 5= Strongly Agree (SA)

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know how to file VAT returns online</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know how to pay VAT through i-tax system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can be facilitated to file VAT through the available KRA centers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can file VAT returns from the nearby cyber cafes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would file VAT returns on time if the costs of data bundles were reduced</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is easy to file tax returns through i-tax</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION D: Deterrence measures (Provide responses by ticking appropriate answers)
8. To what extent do you agree with the following statements on deterrence measures where:
1= Strongly Disagree (SD) 2=Disagree (D) 3= Neutral (N) 4= Agree (A) 5= Strongly Agree (SA)

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would pay more VAT if the rate would be lowered</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I file VAT returns to avoid interests</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I pay VAT on time to avoid penalties</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I pay VAT because this firm is likely to be selected for auditing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failing to pay VAT can easily be detected in this firm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION E: VAT Performance (Provide responses by ticking appropriate answers)
10. To what extent do you agree with the following statements on VAT performance, where:
1= Strongly Disagree (SD) 2=Disagree (D) 3= Neutral (N) 4= Agree (A) 5= Strongly Agree (SA)

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am registered for VAT obligation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I file VAT returns on time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I pay correct amount of VAT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I pay VAT on time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you
Appendix III: List of Firms

1. PIONEER DESIGN & CONSTRUCTION LIMITED
2. ROY IDEAL SOLUTIONS LTD
3. GABSTAR BUILDERS AND SUPPLIERS LIMITED
4. SILVER TIDE VENTURES LTD
5. RORYDA GARDENS AND RESORTS LIMITED
6. LECTECH COMPANY LIMITED
7. SPIN GOLD LIMITED
8. AIRNET BROADBAND LIMITED
9. PRIMACEZ ENTERPRISES LTD
10. SHAHNEST DISTRIBUTORS LTD
11. URBAN VINTAGE LIMITED
12. LARIOX INVESTMENTS LIMITED
13. Theziz Power Solutions Ltd
14. Kahuru Furniture Limited
15. APTICE ENERGY
16. GEO INC CONSULTING SURVEYORS LIMITED
17. THE EUNEJ SOLUTIONS ENTERPRISE LIMITED
18. JAKEZ BAR AND KITCHEN LIMITED
19. CENTRO MARKETING & EVENTS MEDIA GROUP LIMITED
20. SALU CHAINLINKS ENTERPRISES LIMITED
21. SMARTME SOLUTIONS
22. ABC SUPERMART COMPANY LIMITED
23. JUSMAC GROCERS
24. Sajon Company Limited
25. DAWAKU TOOLS AND MACHINERY
26. Paul Wamutu General Suppliers
27. SEFASHI ENTERPRISES LTD
28. FALME STONE VENTURES LIMITED
29. Mugono One General Traders Limited
30. Mazero Agrifood Ltd
31. Stepwing Resort Ltd
32. Central Gas Trip Globe Ltd
33. KEZNA COMFORT EXPRESS LIMITED
34. STEMARC CONCEPTS LTD
35. Nyeri Mighty Hardware Limited
36. BIOWORKS RENEWABLE ENERGY LIMITED
37. TEWAN LOGISTICS LTD
38. DOUBLE KEI BUILDING SOLUTIONS LTD
39. SILVERBROOK HOTEL LIMITED
40. TSWANA VENTURES LIMITED
41. Pesta Infusion Suppliers
42. EKAYA HAIR STUDIO AND SPA LIMITED
43. NARUMORO DAIRY FARM LTD
44. KEYPOINT WHOLESALERS LIMITED
45. KEYLAND WHOLESALERS LIMITED
46. PATSALO GENERAL ENTERPRISES LIMITED
47. Firstborn Construction Limited
48. Jamliz Builders Limited
49. Frakamu Limited
50. RWARE SNOWLINE STUDIO LIMITED
51. JAWANJO GLOBAL SUPPLIES LIMITED
52. ASHAARIM LIMITED
53. LAKENETS LOGISTICS LIMITED
54. Kakalta Bar & Restaurant Limited
55. JOY GREENS ENTERTAINMENT PARK LIMITED
56. IFRANAK LIMITED
57. TRISHAN COMPANY ENTERPRISES LIMITED
58. WHISPERING PINES LIMITED
59. GITFAL LIMITED
60. Bruchell Enterprises Limited
61. MEADOW BLISS COMPANY LIMITED
62. MOTSANTA ENTERPRISES LIMITED
63. VITO REAL SOLUTIONS LIMITED
64. Wadrian Ventures
65. TREMNA LIMITED
66. Kexcellent Services Limited
67. DA VENUE RESORT
68. SUPADIL ENTERPRISES
69. NEXT LEVEL INNOVATION CENTRE LIMITED
70. ZING ZANG LIMITED
71. JERSEY AWESOME FOODS LTD
72. MOSES EMPORIUM LIMITED
73. MWAPS LOGISTICS LIMITED
74. DANTEZKI SOLUTIONS LIMITED
75. NOFRA ENTERPRISES LIMITED
76. COMFORT VALLANTO ENTERPRISES
77. ROKKINS ENTERPRISES LIMITED
78. ENLYTE INVESTMENTS COMPANY LIMITED
79. GOLD MAX COFFEE (K) LIMITED
80. SUPERNOVA GENERAL MERCHANTS
81. OTHAYA SPRINGS LIMITED
82. MOURICE AUTO GARAGE LIMITED
83. BROPHILE ENTERPRISES
84. ROBINS DEN LIMITED
85. CLAMBY KENYA LIMITED
86. MURIBI CONTRACTORS LTD
87. SKYWAYS SECURITY SERVICES LIMITED
88. TRANCHANT LTD
89. NYANA HARDWARE LIMITED
90. Jodac Works Ltd
91. REFLUX CONSULTANCY LTD
92. TRILOGY MINDS AFRICA LIMITED
93. TRIG VENTURES LIMITED
94. WAKIRITHI ENTERPRISE LIMITED
95. TAUSI TILES CENTRE STORES LTD
96. DAMALI GENERAL MERCHANTS LIMITED
97. AS SOUNDS EVENTS LTD
98. PHEDIVALL ENTERPRISES
99. TSHOMBE CREATIVE DESIGNERS
100. TOPSOIL PAVING & ENGINEERING CO. LIMITED
101. AEGIR CONSULT LIMITED
102. NEROB INVESTMENTS LIMITED
103. INTRAFIELD COMPANY LIMITED
104. SASSY OCCASSIONS KE. LTD
105. SENSAN GROUP (KE) LIMITED
106. Makinya.w.maendeleo Ya Wanawake S.h.g
107. Kiganjo/ Mathari Ward
108. PUMOLEN VENTURES LTD
109. LUNAX VENTURES LIMITED
110. EMMANUEL FRIENDS TAILORING LIMITED
111. LENANA HARDWARE STORES LIMITED
112. MISTY ALES LIMITED
113. VYMECOM ENTERPRISES
114. JOYLINE MERCHANTS (K) LTD
115. VEEKIIP ENTERPRISES LIMITED
116. Harel Hope Limited
117. SYLOWS INVESTMENTS LIMITED
118. METRO QUEENS LIMITED
119. PENTA TECH BUILDERS LIMITED