

**Value Added Tax Reforms and Tax Compliance Among Small and Medium  
Enterprises in Nairobi, Kenya: Moderated by Taxpayer Behavior**

**Wairimu Nyandunyu Kinyua**

**168921**

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Nairobi, Kenya.**

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### Declaration

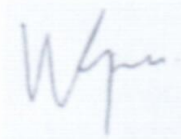
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Name of Candidate:

**Wairimu Nyandunyu Kinyua**

**168921**

Signature:



Date: **19/5/2025**

### Approval

This thesis has been reviewed and approved for examination by:

Name of Supervisor:

**Dr. Mary Omingo**

**Strathmore Business School**



Signature

1 19/5/2025

Date

## **Abstract.**

Tax compliance remains a challenge for Small and Medium Enterprises in Nairobi, despite Value Added Tax reforms and taxpayer education, with Kenya's Value Added Tax compliance gap averaging 40%, resulting in an annual loss of KES 200 billion due to tax evasion and inefficiencies. This study's main objective was to examine the effect of Value Added Tax reforms and taxpayer education on Value Added Tax compliance among Small and Medium Enterprises, while also assessing the moderating role of taxpayer behavior. The study's specific objectives were to examine the effect of Value Added Tax reforms and the effectiveness of taxpayer education programs on VAT compliance among small and medium enterprises in Nairobi, while also assessing how taxpayer behavior moderates the relationship between Value Added Tax reforms, taxpayer education, and Value Added Tax compliance. The study was guided by deterrence theory and the slippery slope framework theory, employing a positivist research philosophy and a quantitative descriptive research design. The target population was 2,416,368 Small and Medium Enterprise owners and employees in Nairobi. Using Slovin's formula, a sample of 200 SMEs across wholesale, retail, manufacturing, and services was selected proportionally. Data was collected via structured questionnaires, both online and in hard copy, following ethical guidelines to ensure confidentiality and academic use only. Data analysis involved data cleaning, coding, and applying ordinal logistic regression to examine the effects of Value Added Tax reforms, taxpayer education, and taxpayer behavior on Value Added Tax compliance. The study found that while VAT reforms like eTIMS and auto-populated returns aimed to simplify compliance, they often introduced new challenges such as system unreliability and increased compliance costs. Taxpayer education, though mostly delivered digitally, was found to be less effective for SMEs who preferred on-ground, sector-specific training that allowed real-time engagement. Additionally, taxpayer behavior significantly influenced compliance, with SMEs showing higher compliance when they had positive attitudes toward reforms and adopted proactive tax practices. This highlights the importance of behavioral alignment in policy design. The study contributes to the growing literature on VAT compliance by integrating the moderating role of taxpayer behavior in Kenya's context and recommending more inclusive, user-friendly reforms and educational strategies. However, the study is limited by its focus on Nairobi SMEs and a lack of long-term analysis, suggesting the need for future research on regional differences and the sustained effects of reforms and education.

**Key Words:** Value Added Tax (VAT), VAT Reforms, Taxpayer Education, Taxpayer Behavior, Tax Compliance.

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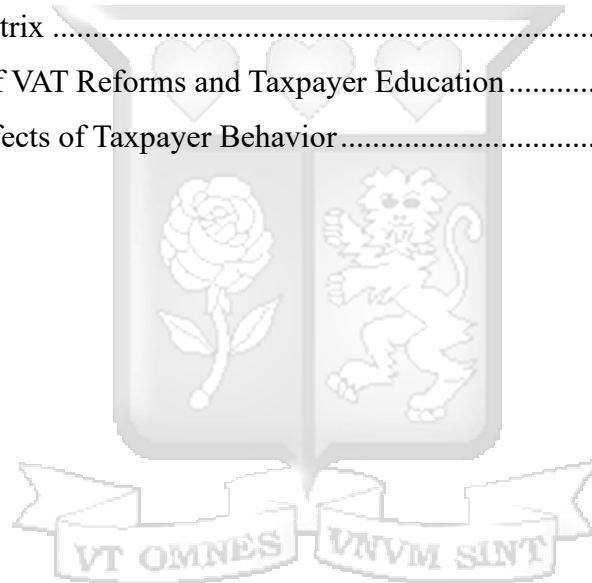
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## List of Abbreviations

**BT** – Business Tax.

**DTA** – Double Taxation Agreement.

**ETR** – Electronic Tax Register.

**EU** – European Union.

**GST** – Goods and Services Tax.

**ICT** – Information and Communication Technology.

**IMF** – International Monetary Fund.

**iTax** - Integrated Tax Management System (Kenya Revenue Authority’s online tax portal).

**KNBS** – Kenya National Bureau of Statistics.

**KRA** – Kenya Revenue Authority.

**MSME** – Micro, Small, and Medium Enterprises.

**NACOSTI** - National Commission for Science, Technology and Innovation.

**OECD** – Organization for Economic Co-operation and Development.

**SMEs** – Small and Medium Enterprises.

**SPSS** - Statistical Package for the Social Sciences.

**SSF** - Slippery Slope Framework.

**TIMS** – Tax Invoice Management System.

**VAT** – Value Added Tax.

**VIF** - Variance Inflation Factor.

## Definition of Terms

**Digital Marketplace** - means an online platform which enables users to sell goods or provide services to other users (VAT Act, Cap.476).

**ETR** -This is a cash register with fiscal memory that keeps a record of all transactions for the purposes of the trader accounting for VAT charged at the time of making a sale (KRA, 2020).

**Input VAT** - "Input tax" means—

(a) tax paid or payable on the supply to a registered person of any goods or services to be used by him for the purpose of his business; and

(b) tax paid by a registered person on the importation of goods or services to be used by him for the purposes of his business (VAT Act, Cap.476).

**iTax** - The platform with which the Tax Invoice Management System (TIMS) integrates (KRA, 2019).

**Output VAT** – This means tax which is due on taxable supplies (VAT Act, Cap.476).

**SMEs** - are businesses that typically employ between 1 and 100 people and have an annual turnover not exceeding KES 50 million, playing a vital role in Kenya's economy (Wilson & Makau, 2017).

**Tax** - A compulsory unrequited payment to the government, central to building strong, prosperous and inclusive societies (OECD, 2022).

**Taxpayer Behavior** – The attitudes, moral considerations, and perceptions that influence taxpayers' willingness to comply with tax obligations (Zolotukhina, 2019).

**Tax Compliance** – The degree to which taxpayers adhere to tax laws, including timely filing, accurate reporting, and payment of tax liabilities (Abdu & Adem, 2023).

**Tax Education** – Programs aimed at increasing taxpayers' understanding of tax laws and their obligations to enhance voluntary compliance (James & Alley, 2019).

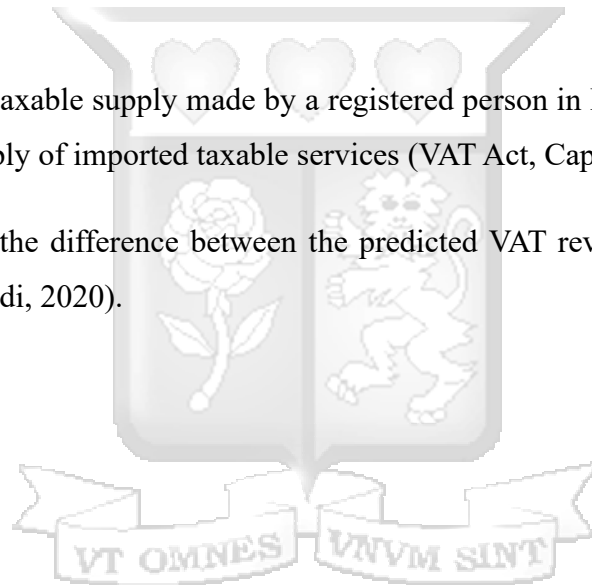
**Tax Reform** - The process of modifying the tax system, including changes to tax rates, tax policies, and tax structures, with the goal of improving the efficiency, fairness, and overall performance of the tax system within the context of the broader economic and social objectives of a country or jurisdiction (OECD, 2022).

**VAT Gap** - This is the difference between the predicted VAT revenue and actual VAT revenue collected (Omondi,2020).

**TIMS** – This is an information technology integration system that integrates trader systems (Electronic Tax Registers, Point of Sale, and ERP-Billing/Invoicing system) with iTax to monitor the generation of electronic tax invoices and their transmission through the internet to it (KRA, 2019).

**VAT** – tax charged on a taxable supply made by a registered person in Kenya, the importation of taxable goods, and a supply of imported taxable services (VAT Act, Cap.476).

**VAT Reforms** - This is the difference between the predicted VAT revenue and the actual VAT revenue collected (Omondi, 2020).



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## Dedication

First and foremost, I thank God for allowing me to undertake my master's degree and for walking with me throughout this journey to this point. To my loving parents, Pauline Wangari and Kinyua Ngige, and siblings Wangu Wakini and Ngige Ngatambuki, whose unwavering support, endless sacrifices, and unconditional love have been my greatest source of strength. To Zetsieat Solomon, who has stood by me through every challenge, offering encouragement and laughter even in the toughest moments. This journey has been filled with challenges, learning points and triumphs, and I could not have made it without each of you. From the depths of my heart, I dedicate this work to you with immense gratitude.



# Chapter One

## Introduction

### 1.1. Background to the Study

Tax is defined as a mandatory financial charge imposed by a government on individuals or entities, serving as a primary source of revenue to fund public goods and services, address fiscal deficits, and enhance economic stability (Omondi, 2013). The first recorded instance of taxation dates back to ancient Egypt, where the Pharaoh collected taxes in the form of harvests, similar to our modern use of money (Tax Foundation, 2023). Throughout history, taxation has transformed from simple collection methods to advanced systems that reflect the changes in modern economies.

Taxation serves as a critical instrument used to achieve equity and efficiency in economies worldwide while raising funds for public expenditure and development projects (Fakunmoju 2022). Taxes are broadly classified into two types, direct and indirect, each playing a distinct role in revenue generation and economic policy. The implementation of effective tax systems in the administration of the two types of taxes, which are direct and indirect taxes, enables governments to fulfill their social responsibilities and maintain economic stability (Bird & Zolt, 2018).

The Organisation for Economic Co-operation and Development (OECD) has played a significant role in coordinating international tax policy through initiatives aimed at preventing tax base erosion and profit shifting (Bradbury et al., 2018). Many European nations have shifted toward consumption-based taxes while reducing corporate rates to remain competitive in a globalized economy (Cnossen, 2018). Developing economies have focused on broadening tax bases and improving administrative efficiency, with countries like India implementing comprehensive goods and services taxes to simplify complex systems (James, 2021). Following the global financial crisis, advanced economies implemented progressive tax measures targeting high-income individuals, with countries including the United Kingdom strengthening wealth taxes and higher marginal income tax rates (Perret, 2021). The digital economy has presented new challenges, prompting governments to reconsider tax structures with increasing attention to digital taxation and international coordination (Olbert & Spengel, 2019).

The evolution of tax systems over time has given rise to increasingly sophisticated revenue collection mechanisms, with indirect taxes, particularly Value Added Tax (VAT), which is the focus of this study, emerging as one of the most significant innovations in modern taxation (Mascagni & Mengistu, 2022). According to an OECD report (2022), VAT plays a significant role in tax revenue across regions like Africa, Latin America, and the Asia-Pacific, highlighting the growing dependence on consumption-based taxes as governments aim for stable and diverse revenue sources.

VAT is a consumption-based indirect tax applied on goods and services, where value is added, throughout each stage within the supply chain, where businesses gather taxes from customers and then remit them to the government (Schenk et al., 2015). It effectively functions as a self-crediting system, enabling companies to deduct input VAT (paid on purchase) against output VAT (charged on sales), with the ultimately resulting sum payable to the authorities (Olsen et al., 2017).

Discussions about VAT cannot overlook small and medium enterprises (SMEs) because they dominate business sectors across global economies, significantly influencing VAT collection and compliance (World Bank, 2019). In Africa, SMEs account for approximately 90% of all businesses, forming a critical component of the tax base and economic activity (Chaokromthong & Sintao, 2021). In Latin America, SMEs constitute about 99% of enterprises, playing a substantial role in VAT revenue through their extensive involvement in trade and services (Chacaltana & Leung, 2020). In the Asia-Pacific region, SMEs represent over 97% of all businesses, shaping VAT administration by driving local supply chains and economic growth (UNESCAP, 2023).

Despite reforms and the evolution of VAT systems, compliance rates remain a significant challenge across various regions, impacting revenue collection and economic stability (Keen & Mintz, 2019). In the European Union, the VAT compliance gap, which measures the difference between expected and actual VAT revenue, was estimated at 7% in 2022, reflecting persistent issues in enforcement and taxpayer adherence (European Commission, 2024). In Sub-Saharan Africa, compliance gaps are often higher, with some countries reporting gaps as large as 50% due to weak institutional frameworks and informal economies (Mascagni et al., 2021). These challenges highlight the need for continued digitalization, improved monitoring, and targeted policies to enhance VAT compliance globally (Bellon et al., 2022).

### **1.1.1. VAT Reforms**

The International VAT/GST Guidelines (“the Guidelines”) set forth internationally agreed principles and standards for the VAT treatment of the most common types of international transactions, with a particular focus on trade in services and intangibles. The aim is to minimize inconsistencies in the application of VAT in a cross-border context, thereby reducing uncertainty and risks of double taxation and unintended non-taxation in international trade (OECD, 2017).

Several countries transitioned from complicated indirect tax systems to VAT to establish a more efficient and standardized framework such as India’s switch from Sales Tax, where businesses were taxed at each stage of the supply chain (encouraging tax evasion), to VAT, which allowed for an input tax credit to reduce the cascading effect of sales tax. This shift led to a 3% increase in investment, helped financially struggling firms, and improved compliance growth (Aneja, Kulkarni, and Ritadhi, 2020). Similarly, a study by Cui (2014) examined China’s shift from Business Tax (BT) to VAT, which aimed to address tax cascading. Although the goal was to eliminate double taxation and increase compliance, the study found a need for a more defined administrative structure for VAT.

Simplifying VAT systems by reducing multiple rates was another important reform area as indicated by Benedek (2019) covering 17 Eurozone nations (including Croatia, Cyprus, Italy, Austria, Belgium, etc.) determined that a single VAT percentage improves tax observation, reduces the cost of compliance, and minimizes the risk of non-compliance. Likewise, Maples and Sawyer (2017) examined New Zealand’s single-rate Goods and Service Tax (GST) system (15%), similar to VAT, and determined it to be among the most notably effective tax systems, reducing distortions and greatly improving revenue collection. The study also found that countries such as Singapore and Fiji, which adopted similar single-rate systems, encountered significantly higher compliance and impressively lower tax evasion.

VAT registration reforms also played a significant role as seen by Kowal and Przekota (2021) who discussed VAT efficiency in the European Union and highlighted the introduction of VAT registration thresholds as a key mechanism for improving tax administration. However, the study found that while thresholds benefit small enterprises, they can also exclude many businesses from VAT obligations and encourage firms to underreport sales to stay below the threshold and avoid compliance costs.

The effect of VAT reforms on collection rates varies but often shows positive trends when effectively implemented as seen in India's GST implementation led to a revenue increase from INR 7.2 trillion in 2017–18 to INR 13.4 trillion in 2022–23, driven by broader coverage and improved compliance (Mukherjee, 2020; Ministry of Finance, 2023). In the EU, digital reforms are projected to boost VAT collection by €113 billion annually by 2032, though early data suggests incremental gains as systems adapt (European Commission, 2022). In New Zealand, GST revenue rose by 8% in the year following the 2021 digital services reform, underscoring the potential of targeted expansions (Inland Revenue, 2021; OECD, 2022). Globally, these reforms indicate that while collection rates often rise with broader bases and better enforcement, success depends heavily on administrative capacity and the economic context.

Tait (2015) observed that VAT's initial rollout in developing countries frequently stumbled due to enforcement deficiencies, prompting subsequent reforms in nations such as Nigeria and Uganda. These efforts reflect a broader narrative of resilience, wherein African policymakers navigated the tension between fiscal ambition and practical realities, crafting systems responsive to both economic imperatives and societal needs. VAT rates were structured based on sector-specific and country-specific requirements, as seen in a study by the Ghana Institute for Fiscal Studies and the Ministry of Finance (2018), which found that Ghana's multiple VAT rates, including exemptions on basic foodstuffs, made the system more progressive by reducing the tax burden on lower-income households, thereby increasing compliance.

Barbone, Bonch-Osmolovskiy, and Poniatowski (2015) carried out a study in Saudi Arabia, where the VAT standard rate of around 5% applied across sectors such as retail, hospitality, and utilities, while exemptions were provided for healthcare, education, and transportation. The study found that although structuring VAT rates based on necessity enhanced compliance and reduced the tax burden on essential goods and services, it also introduced complexity into the implementation of multiple VAT rates.

In Kenya, VAT was introduced in 1990, replacing the Sales Tax operational since 1973 with the transition enacted through the VAT Act, Chapter 476 of the Laws of Kenya, aimed to establish a more efficient, consumption-based tax system that would broaden the revenue base and better fund public services (PricewaterhouseCoopers, 2019). The Kenya Revenue Authority (KRA), formed in 1995 under the KRA Act (Cap 469), became responsible for administering VAT, ensuring

compliance, and educating businesses about the new tax obligations (KRA, 2023). The shift was motivated by the need to modernize Kenya's tax framework, reduce reliance on direct taxes, and align with global best practices favoring value addition taxation (Mutua & Gichinga, 2017).

The first major reform came in 2013, when the VAT Act, Cap. 476, was repealed and replaced with the VAT Act, No. 35 of 2013, supported by the VAT Regulations of 2017. The aim was to simplify the tax structure, minimize exemptions, and boost revenue by expanding the taxable base, addressing gaps that allowed significant revenue leakage (PwC, 2019). The KRA mandated VAT registration for businesses with annual turnovers exceeding KShs 5 million and introduced the iTax platform for monthly filings to enhance compliance and administrative efficiency (KRA, 2023). Additionally, the Finance Act of 2020 extended VAT to digital marketplace supplies at the standard rate of 16%, capturing revenue from the growing digital economy (Mutua & Gichinga, 2020).

Kenya's tax reforms increasingly leveraged technology and global economic trends. The VAT (Electronic Tax Invoice) Regulations of 2020 mandated Electronic Tax Registers (ETRs) for real-time invoice transmission to the KRA, significantly curbing tax evasion (KRA, 2023). Due to the high cost of ETR machines, the Electronic Tax Invoice Management System (eTIMS) was introduced, allowing businesses to generate and transmit invoices electronically using online connectivity, complemented by eTIMS Lite for micro and small enterprises via USSD code (KRA, 2024).

In 2023, the VAT (Electronic, Internet, and Digital Marketplace Supply) Regulations required non-resident digital suppliers to register for VAT regardless of turnover, aligning with international tax norms (EY, 2023). These efforts are reinforced annually through the Finance Bill and Finance Act, introducing regulatory amendments to strengthen Kenya's fiscal framework and boost compliance (KPMG, 2024).

### **1.1.2. Taxpayer Education**

To address the persistent VAT gap and elevate compliance rates, many countries have turned to taxpayer education as a vital tool to enhance understanding and voluntary participation, as seen by Dominguez (2018), who highlights initiatives in the Philippines such as the Bureau of Internal Revenue's taxpayer education campaigns launched to simplify VAT obligations under the Acts and

reduce errors and evasion through informed taxpayers. Similarly, in the European Union (EU), educational programs tied to the VAT in the Digital Age reforms have been designed to equip businesses with knowledge of real-time reporting requirements, thereby fostering compliance amidst complex regulatory changes (European Commission, 2022). Research further supports this approach, as studies across OECD nations show that informed taxpayers are more likely to comply when they fully understand the system's mechanics and benefits (OECD, 2019).

The delivery of taxpayer education has evolved, leveraging various platforms ranging from traditional to digital channels, as illustrated by the Inland Revenue in New Zealand, which employs online webinars and interactive GST guides to reach businesses, reflecting a strategic shift towards digital outreach (Inland Revenue, 2021). Similarly, in India, GST education efforts have utilized mobile apps, social media, and workshops to target diverse taxpayer segments and broaden engagement (Mukherjee, 2020). However, a growing concern, as noted by Brondolo (2021), is that these platforms are not always selected with precision, potentially missing key audiences such as small enterprises and less tech-savvy individuals.

Governments have increasingly prioritized taxpayer education to support SMEs and individuals operating in the informal sector, as discussed by Coolidge (2010), who states that when taxpayers are adequately informed about tax policies, processes, and benefits, they are more likely to comply voluntarily. This view is further supported by Muiru (2012), who emphasizes that taxpayer education plays a critical role in demystifying complex tax laws and motivating voluntary compliance. Similarly, the OECD Program No. 29 (2012) stresses the importance of educating taxpayers about their rights and obligations to enhance compliance levels.

The platform through which taxpayer education is delivered is also crucial, as highlighted by Rahman and Ahmed (2019), who found that while the internet and mobile technology have become key channels for delivering tax education, the digital divide remains a significant barrier. Supporting this, Kumar and Martinez (2022) noted that in rural areas with limited internet access, mobile tax clinics and community workshops serve as essential tools for reaching underserved populations.

Despite the implementation of VAT reforms, VAT compliance has remained a challenge, particularly among SMEs, reinforcing the need for robust taxpayer education, as shown by Mutua (2016), who indicated that even with clearer classifications and reforms, compliance costs and lack

of awareness continue to hinder SMEs, especially within Nairobi's informal and semi-formal sectors. This is echoed by Nduruchi and Mokokha (2017), who found that SMEs are generally less compliant than large corporations, which are easier for tax authorities to monitor.

According to Osebe and Kirui (2021), in Kenya, tax education initiatives spearheaded by the Kenya Revenue Authority (KRA), including workshops, training programs, and online resources, have played a significant role in enhancing taxpayer awareness and knowledge. The study further found that SMEs demonstrating higher levels of tax awareness are more likely to file their returns accurately and on time. However, as Mutua (2016) highlights, many tax education platforms fail to effectively reach their intended audiences, and when SME owners perceive the tax system as overly complex or view the tax burden as unfair, their willingness to comply diminishes significantly.

### **1.1.3. Taxpayer Behavior**

Taxpayer behavior emerges as a critical factor influencing the success of VAT reforms and the effectiveness of taxpayer education, as highlighted by Dominguez (2018), who notes from a study in the Philippines that attitudes toward tax fairness and trust in government significantly shape compliance, with education campaigns often struggling to shift entrenched evasion habits. Similarly, in the European Union (EU), behavioral research shows that the complexity of VAT rules can deter compliance despite educational efforts, as taxpayers' perceptions of burden often outweigh the benefits of increased knowledge (European Commission, 2022). Supporting these findings, a global review by Allingham and Sandmo (2021) highlights that behavioral responses, such as risk aversion and social norms, can either amplify or undermine reform outcomes, although these dynamics are rarely quantified in relation to actual compliance rates.

Despite numerous efforts to improve tax compliance, it is ultimately taxpayer behavior—the actions and decisions of individuals—that determines the success of these initiatives, as emphasized by Feige (2020), who argues that reforms and education alone are insufficient without a deep understanding of behavioral drivers. In a similar vein, Sritharan and Salawati (2019) found that taxpayers are more likely to comply when they believe there is a high likelihood of being audited and when they have confidence in the government's use of tax revenues. Reinforcing this, Al-Ttaffi, Bin-Nashwan, and Amrah (2020) stress that while enforcement, transparency, and

education are important, their effectiveness largely depends on how taxpayers perceive and react to them.

As much as offering taxpayer education is crucial, understanding taxpayer behavior is equally vital in assessing the effectiveness of VAT reforms in Kenya, as argued by Gitaru (2017), who highlights the need for behavioral insights alongside education initiatives. Torgler (2011) similarly emphasizes that voluntary compliance tends to increase when taxpayers perceive fairness, trust the tax authorities, and feel a strong sense of civic duty. Nevertheless, despite the clear importance of these behavioral dimensions, there remains a notable scarcity of context-specific research on taxpayer behavior in Kenya, particularly among SMEs, who often face unique structural and informational challenges (Nyangweso & Muturi, 2020).

#### **1.1.4. SMES and Compliance Levels**

In Kenya, VAT compliance levels face significant challenges, contributing to a persistent VAT compliance gap that continues to undermine revenue collection efforts, as highlighted by Omondi (2021), who estimates that between 1990 and 2017, Kenya's VAT compliance gap averaged around 40% of potential VAT revenue, translating to approximately KES 200 billion annually in lost revenue due to factors such as tax evasion and administrative inefficiencies. Despite efforts to improve compliance, including digital reforms like the iTax system, compliance among registered businesses remained at about 60% in 2022, with VAT collections accounting for only 6% of GDP compared to a target of 9% (KRA, 2023).

This concern is further supported by Morrow and Świstak (2022), who reveal that even after successive VAT reforms, there is little evidence of improved taxpayer compliance, as persistent inefficiencies in revenue collection continue to undermine progress. Similarly, Muguchu (2020) emphasizes that VAT productivity in Kenya remains below potential, with the compliance gap particularly pronounced among SMEs. As noted by KNBS (2022), SMEs are a crucial part of Kenya's economy, with over 7.4 million SMEs contributing significantly to GDP and employment, making it impossible to discuss VAT without considering their role.

The institutional framework for SMEs is characterized by a significant contribution to the economy, with SMEs accounting for approximately 98% of all businesses and employing about

80% of the workforce (KRA, 2021). Despite their economic importance, SMEs often face challenges such as limited access to finance, inadequate infrastructure, and complex regulatory requirements, which can hinder their tax compliance (OECD, 2022). The Kenya Revenue Authority has implemented initiatives like the iTax system to streamline tax processes and improve compliance among SMEs (KRA, 2021).

Gituru (2017) further stresses that SMEs, despite constituting over 80% of employment in Kenya, continue to exhibit persistent tax compliance gaps, which calls for targeted attention. VAT reforms such as the registration threshold, retained at KShs 5 million after the Finance Bill 2024 rejected a proposed increase to KShs 8 million, disproportionately impact SMEs, defined by KRA as small enterprises with a turnover of KShs 5 million and 10–50 employees, and medium enterprises with a turnover of KShs 100 million and 51–100 employees (KPMG, 2024; KRA, 2019). As Mutua and Gichinga (2017) argue, these reforms, while aimed at boosting VAT collection rates, significantly shape SMEs' operational realities, making their inclusion central to discussions on VAT compliance.

There is, therefore, a pressing need for more focused studies on the VAT gap, particularly concerning SMEs, to better understand and address inefficiencies and evasion, and to refine policy interventions for optimal revenue collection (Omondi & Were, 2023; Tax Justice Network Africa, 2021). As emphasized by the OECD (2022), VAT now represents a major share of total taxation—27% in Africa, 28% in Latin America and the Caribbean, and 25% in the Asia-Pacific—highlighting the growing reliance on consumption taxes to provide stable and broad-based revenue sources. The OECD report further states that the expanding role of VAT is largely driven by reforms aimed at broadening tax bases, improving compliance, and enhancing administrative efficiency.

However, VAT compliance levels vary significantly across different regions, influenced by factors such as enforcement, policy design, and economic conditions. For example, in the European Union, despite progress, the VAT compliance gap in 2022 was estimated at €89 billion, representing 7% of the total expected VAT revenue (European Commission, 2024). In contrast, Japan has maintained a much lower compliance gap, estimated at 5–6% of potential VAT revenue, attributed to its streamlined invoice-based system and high administrative efficiency (OECD, 2022). Meanwhile, in Australia, the Goods and Services Tax (GST) experienced a compliance gap

of about AUD 4.2 billion (approximately 6% of total GST liability) in 2021–2022, driven largely by challenges in small business reporting and digital economy transactions (Australian Taxation Office, 2023).

While VAT reforms and digital innovations have undeniably boosted VAT revenues across many jurisdictions, the full anticipated fiscal impact often remains elusive. For instance, in the EU, despite technological advancements, the VAT gap persisted at €134 billion in 2019, suggesting that underlying inefficiencies continue to limit progress (European Commission, 2022). Similarly, a global analysis by Keen and Lockwood (2016) shows that even with enhanced compliance measures, the revenue yield often falls short of projections, likely due to unaccounted-for economic behaviors or administrative bottlenecks. Reinforcing this concern, the OECD (2020) notes that while collection rates may improve, the transformative leap in fiscal capacity that policymakers expect is not consistently observed, raising questions about the universal efficacy of current VAT compliance strategies.

## **1.2. Problem Statement**

In recent decades, many developing countries have introduced tax reforms such as VAT reforms to enhance revenue collection and improve fiscal sustainability (Benard, 2024). In Kenya, VAT reforms have aimed to streamline tax administration, widen the tax base, and integrate digital systems like iTax and Etims, however, despite these efforts, the country continues to experience a significant VAT compliance gap as seen between 1990 and 2017, this gap averaged 40% of potential VAT revenue, translating to approximately KES 200 billion lost annually due to evasion and administrative inefficiencies (Omondi, 2021). SMEs, which account for over 80% of employment and play a critical role in Kenya's GDP (KNBS, 2022), are central to this issue, as they often struggle with compliance (Gituru, 2017). Even with reforms promoting simplification and automation, the VAT compliance rate stood at around 60% in 2022, while VAT contributed just 6% to GDP, falling short of the 9% target (KRA, 2023). These challenges are not unique to Kenya; for example, China's shift from Business Tax to VAT also encountered similar administrative constraints that hindered full compliance (Cui, 2014).

In response to the persistent compliance gap, the KRA has implemented taxpayer education initiatives aimed at improving VAT knowledge and encouraging voluntary compliance. These include workshops, online tools, and information campaigns Osebe and Kirui (2021). Nevertheless, studies indicate that the delivery platforms for these educational efforts often fail to effectively reach their intended audiences, particularly SMEs operating in informal and semi-formal sectors (Coolidge, 2010). As a result, limited awareness and a perceived complexity of the VAT system continue to hinder compliance. Muiru (2012) established that informed taxpayers are more likely to comply voluntarily when they understand tax policies, their associated benefits, and the cost of non-compliance, while OECD Program No. 29 (2012) emphasizes that educating taxpayers on rules improves relationships with tax officials and enhances compliance rates. Although Rahman and Ahmed (2019) study show that digital platforms like the Internet and mobile technology can improve tax education outcomes, there remains a critical need to identify which specific educational platforms and delivery methods would most effectively reach SMEs in informal sectors with limited connectivity.

Crucially, taxpayer behavior, shaped by perceptions of fairness and administrative trust, has emerged as a key moderating variable influencing the success of VAT reforms and education programs. Al-Taffi and Bin-Nashwan (2020) demonstrated that behavioral variables like trust in government and risk perception have stronger predictive power than policy design elements alone. Similarly, Hindriks and Serse (2021) highlighted the importance of government transparency, which affects the level of taxpayer trust in the system, subsequently increasing compliance as taxpayers believe their contributions serve the national interest. Zolotukhina (2017) further corroborated these findings, establishing that individual behavioral factors significantly determine whether compliance initiatives succeed or fail across different business contexts. Yet, empirical research on how taxpayer behavior intersects with reforms and education efforts, and tax compliance, remains scarce, especially within the Kenyan context.

Therefore, this study sought to examine the effects of VAT reforms and taxpayer education on compliance among SMEs in Nairobi, while assessing the moderating effect of taxpayer behavior on this relationship.

### **1.3. General Objective**

The general objective of this study is to determine the effect of VAT reforms and taxpayer education on VAT compliance among SMEs in Nairobi while assessing the moderating influence of taxpayer behavior.

### **1.4. Specific Objectives**

The study was guided by the following specific objectives:

1. To examine the effect of VAT reforms on VAT compliance by small and medium enterprises in Nairobi, Kenya.
2. To determine the effectiveness of taxpayer education programs on VAT compliance among small and medium enterprises in Nairobi, Kenya.
3. To examine the moderating effect of taxpayer behavior on the relationship between VAT reforms, taxpayer education, and VAT compliance among small and medium enterprises in Nairobi, Kenya.

### **1.5. Research Question**

1. What is the effect of VAT reforms on VAT compliance by small and medium enterprises in Nairobi, Kenya?
2. How effective are taxpayer education programs in enhancing VAT compliance among small and medium enterprises in Nairobi, Kenya?
3. How does taxpayer behavior moderate the relationship between VAT reforms, taxpayer education, and VAT compliance among small and medium enterprises in Nairobi, Kenya?

### **1.6. Scope of the study**

This study was limited to assessing the effect of VAT reforms and taxpayer education on tax compliance in the Nairobi area and focused on SMEs. The research was carried out in April 2025, specifically concentrating on the retail and wholesale, manufacturing, and service sectors, examining the effects of VAT reforms, taxpayer education, and the moderating effect of taxpayer behavior on the relationship between VAT reforms, taxpayer education, and VAT compliance. The

study targeted 200 SME representatives across key areas of Nairobi, including the Central Business District, Eastleigh, Westlands, Ngong Road, and Gikomba. Respondents included key decision makers such as business owners and accountants who were in a position to give insights into how these reforms had affected their operations or influenced their VAT compliance. The study was conducted in 2025, ensuring the findings reflected the current tax landscape in Nairobi.

## **1.7. Significance of the Study**

### **1.7.1. Policymakers**

The findings of this study can be used to guide policymakers to better understand the effectiveness of VAT reforms and how they affect SME compliance in Nairobi. This information can aid in the development of policies that enhance the efficiency of tax administration and streamline the VAT compliance procedure for SMEs. In order to improve support for SMEs and increase compliance and revenue collection, the study identifies the effectiveness of the VAT reforms and enhances taxpayer education in Nairobi. Additionally, this study provides practical insights into how SMEs interact with VAT systems and policy changes, offering evidence that can inform more targeted and responsive policy formulation.

### **1.7.2. KRA Officials**

The study can be able to provide insight to the KRA officials on how well taxpayer awareness campaigns work to increase SMEs' adherence to VAT. The study highlights the most effective platforms available to the KRA officials for different areas, which can assist the KRA officials in creating focused initiatives that cater to the unique requirements of SMEs. It also offers a deeper understanding of SME responses to various education strategies, helping KRA align their communication channels and messaging with what is most accessible and effective for small businesses.

### **1.7.3. SMEs Owners**

The findings of this study can enlighten the owners of small and medium enterprises about the previous VAT reforms put in place to improve and simplify their compliance. Through highlighting practical challenges and opportunities associated with reform and education efforts, the study

equips SME owners with relatable knowledge that can enhance informed decision-making and strengthen compliance practices in a way that aligns with their operational realities.

#### **1.7.4. Researchers**

The study can also be beneficial to other scholars looking to pursue further research on VAT reforms and the effectiveness of taxpayer education in increasing the rate of tax compliance among small and medium enterprises. It enriches the existing literature by offering empirical evidence on the interaction between reform initiatives, taxpayer education, and behavioral factors, encouraging further research in this area, especially within developing country contexts like Nairobi.

### **1.8. Chapter Summary**

This chapter introduced the background of the study, discussing tax reforms, particularly focusing on VAT as an indirect tax. It highlighted the importance of VAT to national revenue and outlined various VAT reforms implemented in different regions, including Kenya. The chapter explored how these reforms aimed to improve tax systems and enhance compliance but often faced challenges. Additionally, it emphasized the role of taxpayer education and the moderating influence of taxpayer behavior on compliance levels, particularly among SMEs. The problem statement underscored the persistent VAT compliance gap in Kenya, despite reforms and education initiatives, pointing to issues such as administrative inefficiencies and behavioral factors. The general and specific objectives were clearly outlined, focusing on the effect of VAT reforms and taxpayer education on compliance, while considering taxpayer behavior as a moderating factor. The research questions mirrored these objectives. The scope detailed the study's focus on SMEs in Nairobi, covering specific sectors and locations. Lastly, the significance of the study was explained, highlighting its value to policymakers, KRA officials, SME owners, and researchers.

# Chapter Two

## Literature Review

### 2.1. Introduction

This chapter reviews theoretical and empirical literature on the effects of VAT reforms, taxpayer education, and the moderating effect of taxpayer behavior on VAT compliance. The theoretical review focuses on various theories that have been used to measure the effect of these reforms on tax compliance. Additionally, previous empirical research was performed in relation to VAT reforms, taxpayer education, and taxpayer behavior that can be used to estimate their effect on the compliance rate. A conceptual framework has then been developed to illustrate the relationship between the independent and dependent variables, alongside a review of the research gap, which forms the basis of this study.

### 2.2. Theoretical Framework

This section examines the different theories that have been employed to evaluate the effect of VAT reforms as well as taxpayer education in efforts to enhance VAT compliance.

#### 2.2.1. Deterrence Theory

Cesare Beccaria introduced the deterrence theory in 1764, suggesting that the fear of punishment stops people from committing crimes (Abramovaite et al., 2022). Deterrence theory emphasizes the importance of taxpayer knowledge in shaping their compliance decisions. According to this theory, individuals are less likely to engage in non-compliant behavior if they are aware that the costs of non-compliance outweigh its benefits. The decision to comply or evade taxes depends significantly on the perceived likelihood of achieving benefits through non-compliance (Mitchell, Voon, & Hepburn, 2019).

Critics argue that it overemphasizes punishment, neglecting alternative approaches like restorative justice and community interventions, and often fails to account for individual differences and ethical concerns (Piquero, 2011). Furthermore, its effectiveness is questioned due to inconsistent empirical evidence and challenges in addressing the root causes of criminal behavior (Pratt, 2006). In the context of this study, deterrence theory supports the objective of understanding the

relationship between perceived punishment severity and compliance behavior among SMEs, suggesting that higher perceived penalties may deter tax evasion.

Alm (2013) notes that tax evasion, defined as illegal or intentional actions aimed at reducing tax liabilities, is a widespread phenomenon across many countries (Feld, Schmidt, & Schneider, 2007). This occurs particularly when sanctions or penalties for non-compliance are perceived as less severe than the financial gains from evasion. Taxpayers' willingness to evade taxes is influenced by their assessment of the potential benefits of successful evasion, weighed against the risks of being caught and the severity of the resulting punishment (Feld et al., 2007; Alm, 2013).

Awareness campaigns and tax education programs can help taxpayers make informed decisions and discourage non-compliant behavior (Luttmer & Singhal, 2014). This is especially important for VAT compliance, as many SMEs lack basic knowledge of how to stay compliant and often don't consider the potential costs of non-compliance when conducting their business activities (Wadesango & Chirebvu, 2020).

Deterrence theory generally predicts compliance patterns based on the ability-to-pay principle, which has been widely adopted in modern tax systems worldwide. This principle posits that taxation should align with an individual's or entity's financial capacity to pay (Guj, Bacoum, & Limerick, 2013). Taxpayers are more likely to comply when they perceive a high probability of detection and when the costs of non-compliance, financial, legal, or reputational, are higher than the potential benefits.

### **2.2.2. Slippery Slope Framework Theory**

The Slippery Slope Framework (SSF), developed by Kirchler, Hoelzl, and Wahl (2008), suggests that tax compliance is influenced by two main dimensions: the power of tax authorities and the trust taxpayers have in those authorities. The original framework emphasizes that compliance can be achieved through either coercive power (enforced compliance) or legitimate power combined with trust (voluntary compliance) (Kirchler et al., 2008). Empirical studies have reinforced this, showing that trust-building measures, such as clear communication, education, and transparency, can significantly improve voluntary tax compliance (Kastlunger, Lozza, Kirchler, & Schabmann, 2013; Gangl, Hofmann, & Kirchler, 2015). Within Nairobi's SME sector, where suspicion toward tax authorities may be heightened due to perceived unfair treatment or complex compliance

processes, enhancing trust through targeted education and simplified VAT systems aligns with the framework's principles (Muehlbacher, Kirchler, & Schwarzenberger, 2011).

However, the SSF also emphasizes the role of enforcement, asserting that compliance increases when taxpayers perceive the authority to be both capable and willing to detect and punish evasion (Gangl, Hofmann, Kirchler, & Stark, 2014). This suggests that a combination of approaches could foster a more balanced compliance environment among Nairobi SMEs, particularly where taxpayer behavior is diverse and influenced by informal economic realities (Schneider & Williams, 2013; Alm & Torgler, 2011). Research by Mascagni (2018) in African contexts further supports the notion that compliance strategies must account for both enforcement capabilities and trust-building measures to be effective in developing economies with large informal sectors.

Nonetheless, other studies continue to support the integrative potential of SSF such as Hofmann, Gangl, Kirchler, and Stark (2014) who argue that taxpayer education plays a key role in developing trust, particularly when delivered through channels tailored to the audience, such as localized workshops or mobile outreach programs. When education helps demystify VAT obligations and simplifies compliance procedures, SMEs are more likely to interpret reforms as supportive rather than punitive, increasing voluntary compliance (Gangl, Hofmann, Kirchler, & Sonntag, 2016). This supports the need to examine taxpayer behavior as a moderating variable, given that the effectiveness of both education and reforms depends not just on their implementation but also on how they are perceived and internalized by different SME actors (Kamleitner, Korunka, & Kirchler, 2012).

Recent applications of the SSF in developing economies by Cyan, Koumpias, and Martinez-Vazquez (2016) have demonstrated that context-specific factors, such as corruption perceptions and economic informality, can significantly influence the power-trust dynamic, suggesting that tax education interventions must be tailored to local conditions to effectively improve VAT compliance among SMEs.

## 2.3. Empirical Review

### 2.3.1. VAT Reforms and VAT Compliance

A study on the effects of multiple VAT rates has been carried out by numerous researchers where Wang (2019) compared China's VAT system with New Zealand's Goods and Services Tax, similar to VAT, and found that China's VAT structure was more complex due to multiple rates and exemptions. The study suggested reducing VAT rates would improve compliance, efficiency, and neutrality. Similarly, Kowal and Przekota (2021) examined VAT efficiency in the European Union and found that tax systems with fewer VAT rates were less prone to tax fraud.

Contrary to the support of fewer VAT rates, studies have been carried out to back up the effectiveness of multiple VAT rates such as a study by The Ghana Institute for Fiscal Studies and the Ministry of Finance (2018) which found that Ghana's multiple VAT rates, including exemptions on basic foodstuffs, made the system more progressive by reducing the tax burden on lower-income households while increasing compliance rates. However, a study by Barbone, Bonch-Osmolovskiy, and Poniatowski (2015) had mixed results as they studied Saudi Arabia's VAT structure, which had a standard rate of 5% while exempting essential services such as healthcare, education, and transportation. Their findings indicated that while multiple VAT rates helped alleviate the financial burden on essential goods, their complexity posed challenges in implementation.

It is evident that the complexity of VAT remained persistent, prompting studies such as Keen and Lockwood (2010), emphasizing that VAT reforms focusing on tax system simplification led to an increase in compliance over five years in developing countries. The International Monetary Fund (IMF, 2018) reported that measures have been put in place to ensure the simplicity in the administration of VAT through the implementation of electronic invoicing (e-invoicing) in Peru which led to a significant increase in reported sales, purchases, and VAT by over 5% in the first year after adoption. Similarly, a study by Chiaji (2024) found that tax system automation, including digital payments and online filing procedures, significantly improved VAT compliance among small and medium enterprises (SMEs) in Nairobi, Kenya. The study emphasized that simplifying tax procedures through automation reduces compliance costs and errors, thereby enhancing overall compliance rates.

However, despite the efforts to ensure VAT simplicity, compliance has become increasingly costly for businesses, as evidenced by studies such as Shekhovtsev (2019) analyzed tax compliance costs for large enterprises in New Zealand and found that, despite having more resources, these businesses incurred significant compliance costs due to the complexities of their multiple, international transactions and tax planning. Similarly, Baghana and Mohnen (2021) assessed tax incentives for enterprises in Quebec, Canada, and found that while research and development tax credits helped lower the compliance burden, firms still faced high costs in navigating regulatory changes. Furthermore, Morrow, Smart, and Swistak (2020) examined VAT compliance across multiple regions and highlighted that high rates continue to contribute to high compliance costs, particularly in low-income countries.

High VAT rates have been linked to increased tax evasion and reduced compliance in multiple countries, as indicated by Wadesango and Chirebvu (2020), who highlight that in Zimbabwe, VAT compliance remains low due to high implementation costs and economic hardships. The study found that high VAT rates increase operational expenses and reduce business profitability, pushing many SMEs into tax evasion as a survival strategy. Similarly, Kowal and Przekota (2021) analyzed VAT efficiency in the European Union and found that countries with higher VAT tend to have larger tax gaps due to tax fraud and non-compliance. Their study emphasizes that high VAT rates alone can discourage compliance, particularly when coupled with complex tax structures and administrative inefficiencies.

On the contrary, lower VAT rates have been associated with increased tax compliance, reduced tax evasion, and enhanced economic growth as studied by Atawodi and Ojeka (2012) who examined tax compliance among SMEs in North Central Nigeria and found that lower tax rates, including VAT, increased the revenue collection, coupled with a willingness to comply. Similarly, Morrow et al. (2020) analyzed VAT compliance across Africa, Europe, Asia, and America and highlighted that countries with lower VAT rates experienced higher compliance, particularly in economies with weak institutional frameworks. Their study suggested that lower rates reduce the incentive for tax evasion while supporting business profitability and economic stability. Furthermore, Kowal and Przekota (2021) found that European Union countries with fewer reduced VAT rates and a lower standard rate experienced higher efficiency in tax collection and lower incidences of fraud. However, despite the positive effect of lower VAT rates, a study by Baghana

and Mohnen (2021), which was carried out in Quebec, Canada, found that large firms reap the greatest benefits from lower VAT rates, prioritizing profit maximization while failing to pass these benefits down to smaller businesses.

Kenya's tax reforms have undergone significant transformation since the introduction of VAT in 1990, replacing the less efficient sales tax system to broaden the tax base and enhance revenue collection. The VAT Act of 2013 marked a pivotal reform, streamlining tax rates to a standard 16% and reducing exemptions to improve compliance, though challenges such as a large informal sector and enforcement weaknesses persist. Wawire (2017) argues that despite these efforts, VAT revenue in Kenya remains inelastic, with compliance gaps linked to administrative inefficiencies and limited taxpayer reach, contributing to an estimated shortfall of 40% of potential VAT revenue (Wawire, 2017).

Technological advancements have been a cornerstone of Kenya's efforts to boost VAT compliance, with the KRA introducing the iTax system in 2014 and ETRs, a system requiring businesses to use certified devices to record and transmit sales transactions in real time to KRA. This initiative aimed to minimize underreporting of income and ensure accurate tax remittances, significantly reducing tax evasion, as it contains a scannable code to ensure accuracy (KRA, 2022). Building on this, KRA launched the eTIMS in 2023 to further streamline tax compliance, which mandates businesses to issue electronic invoices for all transactions, which are instantly transmitted to KRA's central database, enabling real-time monitoring and reducing discrepancies in tax reporting (KRA, 2023). To accommodate smaller businesses, KRA introduced eTIMS Lite in 2024, a simplified, mobile-friendly version designed for micro and small enterprises, which allows users to generate e-invoices via a web portal or USSD code, ensuring accessibility for businesses with limited resources while maintaining compliance (KRA, 2024). These systems collectively enhance transparency, improve revenue collection, and foster a fair tax environment in Kenya. Omondi (2021) found that while digital tools reduced the compliance gap marginally, persistent issues such as low taxpayer education and system accessibility limit their impact, with an estimated KES 200 billion annual revenue loss (Omondi et al., 2021). This suggests that technology alone cannot address deeper structural barriers to compliance.

Compliance with VAT in Kenya continues to be undermined by challenges within the informal sector and among SMEs despite intensified audits and penalties introduced under recent reforms. The complexity of tax rules and high compliance costs deter voluntary participation, particularly among SMEs, which account for a significant portion of economic activity. Mukhlis, Utomo, and Soesetio (2015) emphasize that taxpayer education significantly enhances compliance in developing economies, a finding applicable to Kenya, where awareness campaigns remain underutilized (Mukhlis et al., 2015). Kenya's experience indicates that while tax reforms have established a framework for improvement, achieving higher VAT compliance requires integrating stricter enforcement with simplified processes and targeted educational initiatives to bridge the revenue gap effectively.

To increase compliance among SMEs, research by Oats & Tuck (2019) suggests that transparency fosters accountability, and governments that prioritize transparency can strengthen economic development and improve tax compliance. When businesses, particularly SMEs, perceive that VAT revenues are being used efficiently to improve public services and infrastructure, they are more likely to comply voluntarily. According to Fjeldstad and Heggstad (2012), transparent tax systems create a sense of accountability, where taxpayers can see the direct benefits of their contributions, such as better roads, healthcare, and education. Moreover, the study states that transparency reduces corruption, ensuring that collected taxes contribute to economic growth rather than being lost through mismanagement. In turn, a well-managed economy with visible improvements increases business confidence and encourages SMEs to participate in the formal tax system, ultimately expanding the tax base and enhancing government revenue (OECD, 2021).

However, according to Besley and Persson (2014), taxpayers may react negatively if transparency exposes inefficiencies, waste, or favoritism in government projects, as this erodes their trust in the tax system. Additionally, too much exposure of VAT audits and strict enforcement measures might instill fear rather than compliance, pushing businesses to seek loopholes or informal ways to avoid taxation (Bird & Gendron, 2007). Similarly, Oats & Tuck (2019) found that while transparency fosters accountability, excessive exposure of tax audits and enforcement measures might instill fear rather than encourage voluntary compliance.

### 2.3.2. Taxpayer Education and VAT Compliance

Tax education plays a vital role in improving VAT compliance by enhancing taxpayers' understanding of tax regulations and reducing unintentional errors as seen in a study carried out by James and Alley (2019) who found that taxpayer education increased the likelihood of accurate tax filing by 30%, as businesses with better tax knowledge were more aware of their obligations. Al-Ttaffi, Bin-Nashwan, and Amrah (2020) explored tax knowledge and compliance in Yemen, finding that most Yemeni taxpayers lack sufficient tax knowledge, leading to high levels of non-compliance. Similarly, Mascagni, Moore, and McCluskey (2020) highlighted that government-led taxpayer education initiatives in East Africa improved compliance rates by simplifying complex tax laws into more digestible explanations.

Lee and Hung (2015) investigate the effect of tax knowledge and technological advancements in the tax system on business performance, with a focus on MSMEs in China. The study found that MSMEs often struggle with tax compliance due to a lack of awareness and technical expertise. Their findings suggest that improved tax education and digital transformation are essential for enhancing compliance and business growth, leading to policy recommendations aimed at supporting MSMEs. Similarly, Babic and Zarić (2022) carried out a study that extended the investigation of tax education to tax evasion in the European Union, where the study demonstrated that higher education levels were associated with lower tax evasion rates. A 1% increase in tertiary education led to a 6.263% reduction in tax evasion, while income levels had no statistically significant effect.

Moreover, taxpayer education not only increases compliance but also strengthens business efficiency and economic performance, as stated by Bhalla, Sharma, and Kaur (2022), whose research highlighted that improved tax knowledge enhances business operations, reduces tax fraud, and facilitates better tax administration through digital advancements. Tax education is particularly crucial for small businesses, which often struggle with tax compliance due to a lack of awareness and technical expertise (Prakoso and Tjen, 2020). Additionally, research by Mascagni, Santoro, and Mukama (2019) in Rwanda demonstrated that tax education leads to a long-term shift in compliance behavior, promoting a more responsible taxpayer culture. These findings underscore the importance of interactive and targeted educational programs.

However, while tax education is widely regarded as a tool to improve compliance, a study by Babic and Zarić (2022) suggested otherwise, finding that while higher education levels correlated with lower tax evasion, knowledge of tax loopholes and strategies to minimize tax liability could also result in strategic non-compliance. Similarly, Trawule, Gadzo, Kportorgbi, and Sam-Quarm (2022) observed that certain taxpayers who became more informed through tax education used their knowledge to exploit legal gaps and reduce their tax burden rather than comply fully. Onu and Oats (2016) further highlighted that taxpayers often seek to understand compliance requirements not necessarily to meet obligations but to identify ways to minimize their tax payments legally.

Taxpayer education in Kenya has emerged as a critical strategy to improve VAT compliance, with the KRA employing diverse approaches to inform taxpayers about their obligations and rights. Initiatives such as workshops, radio campaigns, and the Huduma Centres have aimed to reach both urban and rural populations, yet their effect on VAT compliance remains debated. Mukhlis. Utomo, & Soesetio (2015) argue that structured education programs significantly enhance compliance by reducing misunderstandings, citing a 15% increase in voluntary filings among educated SMEs in Kenya. However, critics point to the limited scale of these efforts, with only 20% of registered taxpayers participating in KRA seminars annually, suggesting a gap in outreach depth. The reliance on physical platforms like seminars contrasts with the potential of digital tools, leaving unanswered which medium—traditional or online—best bridges the compliance gap in a country where VAT contributes just 6% to GDP against a 9% target.

Conversely, the integration of digital platforms like the iTax system and social media campaigns has sparked optimism about boosting VAT compliance through taxpayer education, though evidence reveals mixed outcomes. The KRA's online tutorials and SMS alerts aim to simplify tax processes, targeting tech-savvy youth and urban businesses, yet rural taxpayers with limited internet access, over 60% of Kenya's population, remain underserved. Omondi Mungai, & Otieno (2021) highlight that digital education has nudged compliance up by 8% among urban firms, but the overall VAT gap persists at KES 200 billion yearly, signaling uneven reach. Meanwhile, Gitaru (2017) critiques the lack of empirical consensus on platform efficacy, noting that while digital tools offer scalability, traditional methods like community forums foster trust, a key compliance driver, leaving a research gap on whether interactive online platforms or face-to-face engagement

better addresses Kenya's 40% VAT non-compliance rate. This tension underscores the need to identify the optimal education channel.

We also see that these tax educations are used to instill fear among taxpayers rather than purely imparting understanding (Alm, 2017). The study further argues that tax authorities leverage educational campaigns to emphasize penalties and audits, framing compliance as a way to avoid severe consequences rather than a civic duty. This approach shifts the focus from fostering comprehension to creating a deterrent effect, particularly among small business owners who fear disproportionate scrutiny. Similarly, Oats and Tuck (2019) highlight how UK tax education initiatives often embed messages of enforcement, using case studies of prosecuted evaders to intimidate rather than inform. Chirisa, (2022) further notes that in developing economies, tax education workshops frequently stress legal repercussions over procedural clarity, alienating taxpayers and undermining trust. This fear-based strategy, while effective in boosting short-term compliance, risks overshadowing the goal of building a knowledgeable, willing tax base.

In Ghana, Trawule et al., (2022) explored the relationship between tax education, ease of compliance, and fear-based messaging. Their research, based on surveys of self-employed individuals and hierarchical regression analysis, found that tax education and ease of compliance positively influenced voluntary tax compliance. However, the study also found that fear-inspiring messages led to reluctant compliance rather than committed tax behavior.

Tax education platforms play a vital role in enhancing tax compliance by equipping taxpayers with the knowledge needed to navigate complex tax systems, as explored by Mukhlis (2015), who found that tax education significantly improves tax knowledge, positively influencing fairness perceptions and, ultimately, compliance among Indonesian taxpayers. The study further emphasized that platforms offering accessible, tailored content, such as online tutorials, workshops, and mobile apps, can bridge knowledge gaps for all taxpayers, including individuals, small businesses, and corporations. Similarly, Gonidakis (2024) emphasizes that integrating tax education into school curricula and digital tools fosters tax awareness from an early age, creating a culture of compliance. The study further stated that platforms must consider varying literacy levels, languages, and access to technology to ensure inclusivity, making tax obligations clearer and less intimidating for diverse taxpayer groups.

Franklin (2018) conducted a review of tax education research from 2010 to 2017, analyzing trends in teaching methods and the impact of technology on tax education in the USA. The study identified a gap in research regarding experiential learning methods, such as simulations and real-world case studies, which could enhance students' understanding of tax principles. The findings of this study highlighted that online learning, and technological advancements have significantly changed and improved how tax concepts are taught.

The importance of tax education platforms in adapting to modern challenges, such as the digital economy, while promoting voluntary compliance, noting that taxpayers with higher educational levels have a better understanding of tax laws, enabling them to accurately file returns and minimize errors that lead to non-compliance (Nguyen, 2022). Bird and Zolt (2021) emphasized that interactive workshops and digital learning platforms were more effective in fostering compliance than passive methods such as pamphlets or radio messages. Digital platforms, like e-tax systems, simplify procedures and provide real-time guidance, as noted by Adelekan (2024), who highlights their role in streamlining U.S. tax administration through blockchain technology. Further, these tools cater to all taxpayers by offering user-friendly interfaces and reducing the administrative burden, particularly for small business owners who often struggle with compliance due to limited resources. By making tax education engaging and accessible, such platforms encourage a shift from enforced to voluntary compliance, aligning with findings from Kumi and Kwasi (2023) that education enhances taxpayers' willingness to meet their obligations.

However, a contradictory perspective suggests that the effectiveness of tax education platforms may be limited by taxpayers' intrinsic motivations, regardless of the tools provided, as indicated by Kasipillai (2016), who highlighted that some taxpayers with advanced tax knowledge exploit it for evasion rather than compliance. Kwok (2018) similarly noted that efforts to increase compliance rates may accidentally contribute to revenue losses as they equip taxpayers with the knowledge to exploit loopholes and maximize profits. The study further emphasized that while empowering taxpayers is essential, it must be accompanied by a robust verification system to ensure accurate filing and prevent manipulation.

### **2.3.3. The Moderating Effect of Taxpayer Behavior on VAT Reforms, Taxpayer Education, and VAT Compliance**

Taxpayer behavior serves as a critical moderating factor in the relationship between VAT reforms and compliance, as economic incentives drive distinct responses as stated by Hindriks and Serse (2021) who analyzed Belgium's temporary VAT cut on electricity from 21% to 6%, later reversed to 21%, and found that while residential consumers reduced usage when rates increased, they were reluctant to raise consumption when rates decreased, highlighting their price sensitivity. According to Torgler and Schneider (2015), behavior moderates the effectiveness of reforms: even well-designed policy measures may fail if taxpayers are inherently distrustful or uninformed as well as even if they have undergone tax education.

Similarly, Adam (2019) examined the UK's temporary VAT reduction from 17.5% to 15% during the 2008-2009 recession, revealing that households increased spending on durable goods in response to the lower rate, while firms maintained steadier pricing and output levels, passing only part of the tax cut to consumers. The study's findings emphasized that the comparisons highlight how VAT rate changes influence household behavior more dynamically than business behavior, shaping compliance through consumption adjustments driven by economic incentives. However, Serse (2021) suggests that taxpayer behavior may not significantly determine individual compliance levels, emphasizing instead that VAT adherence is legal obligation taxpayers are expected to follow regardless of their personal responses to rate changes.

Positive behaviors, such as timely filing and accurate reporting, can amplify compliance rates, with studies suggesting that trust in the KRA boosts voluntary adherence by up to 20% among urban taxpayers (Kioko & Mutua, 2019). However, negative behaviors like tax avoidance, prevalent among SMEs due to perceived high compliance costs, widen the VAT gap, estimated at KES 200 billion annually. Kioko and Mutua (2019) emphasize that education campaigns, whether through workshops or online portals, can shift these behaviors, yet optimism fades when only 30% of taxpayers engage with such initiatives, raising questions about whether traditional face-to-face outreach or digital platforms better reshape attitudes to close the 40% non-compliance rate.

Zolotukhina (2019) examines the effect of the VAT threshold on the behavior of small businesses in Norway, exploring whether firms intentionally limit their sales to avoid VAT registration and

compliance costs. The study found evidence of "bunching" behavior, where businesses strategically adjust sales to remain below the VAT threshold. Similarly, Harju (2019) analyzed Finland's VAT threshold, finding that small firms also exhibit bunching by limiting turnover, particularly in service sectors, reinforcing the notion that compliance costs disproportionately affect smaller enterprises and prompt adaptive behaviors to minimize tax liabilities. However, Pomeranz (2015) examined Chile's VAT system and concluded that firms' compliance was driven more by audit threats and paper trails than VAT registration and that VAT reforms may not significantly alter taxpayer actions when external controls dominate.

Tax compliance is affected by a range of non-economic factors, such as complexity, personal values, and social influences, as evidenced by Borrego (2021) who explore how tax complexity affects professionals' attitudes toward non-compliance, finding that intricate regulations significantly shape compliance behavior, with their study categorizing tax professionals to reveal that those overwhelmed by complexity are more prone to negative attitudes toward adherence. Similarly, Mohdali (2020) investigates the role of religiosity in a cross-cultural context, demonstrating that higher religious commitment fosters greater tax compliance, though this effect varies across cultures, highlighting the influence of personal values. Complementing this, Bornman and Wessels (2018) examine taxpayer commitment in South Africa, identifying moral obligation and trust in tax authorities as key dimensions that enhance voluntary compliance, underscoring the importance of social relationships. Together, these studies emphasize that beyond financial consideration, tax compliance is deeply influenced by attitudinal, ethical, and societal factors, illustrating a complex interplay that drives taxpayer behavior.

Ethical and cultural factors also play a significant role in shaping taxpayer behavior toward VAT compliance. Mohdali (2020) explored religious influence across cultures, finding that higher religious commitment correlated with greater compliance, though this effect was stronger in collectivist societies than individualistic ones. This differs from Borrego's (2017) findings, where external complexity drove behavior, as Mohdali highlights internal values as a motivator. Meanwhile, Bornman and Wessels (2018) identified moral obligation and trust in tax authorities as key drivers in South Africa, suggesting that personal ethics and institutional relationships can outweigh economic or complexity-related factors in fostering voluntary compliance.

Some argue that intrinsic motivations, like a sense of civic duty, enhance compliance when reinforced by community-based education, as seen in a 12% compliance uptick in rural areas post-forum interventions (Wambui, & Kiarie, 2020). Yet, extrinsic pressures, such as fear of audits, often backfire, fostering resentment and evasion, particularly among informal traders who contribute to Kenya's 6% VAT-to-GDP ratio against a 9% target (Omondi, Mungai, & Otieno, 2021). Gitaru (2017) critiques the lack of clarity on platform efficacy, noting that while digital tools like iTax offer convenience and scalability, they alienate less tech-savvy taxpayers, whereas interactive seminars build rapport but lack reach.

Governance and transparency introduce additional layers to taxpayer behavior, with varying outcomes as seen in a study by Kiow (2020), who examined Malaysia, finding that higher transparency in public governance generally increased compliance by building trust, yet excessive transparency sometimes backfired, eroding confidence in government intentions and reducing compliance. This contrasts with Bornman and Wessels (2018) whose emphasis on trust as a positive force shows that the balance of information sharing moderates behavior differently as too little or too much transparency can shift taxpayers from compliance to skepticism or evasion.

Similar to government transparency is the need to ensure fair governance of taxes, as stated by Kassa (2021), who studied large enterprises in Ethiopia, revealing that perceptions of an unfair or overly complex tax system significantly drove tax evasion. Unlike small businesses bunching to avoid VAT (Zolotukhina, 2019), large firms exploited their resources to evade, perceiving compliance as less beneficial when fairness was lacking. This comparison underscores how taxpayer scale and capacity moderate VAT compliance, small entities avoid while large ones evade, highlighting the pivotal role in tax outcomes.

#### **2.4.Literature Review Summary and Knowledge Gap**

Below is a table representation of the literature review in summary, which also states the knowledge gap for each research.

### Literature Review Summary and Knowledge Gap

Author	Topic	Findings	Research Gaps	How the Study Addressed the Gap
Katrine Marie Jakobsen & Jakob Egholt Sogaard (2017)	Identifying behavioral responses to tax reforms: New insights and a new approach	The Danish tax reform led to higher income growth for high-income individuals due to changes in marginal tax rates, with most responses driven by income shifting rather than actual labor supply changes.	Prior studies struggled to validate assumptions in estimating behavioral responses to tax changes, mainly due to serial correlation issues and mean reversion in income trends.	The study introduced a validation method to ensure the accuracy of tax reform impact estimations, comparing pre-reform and reform period income trends to isolate true behavioral responses from biases
Jean Hindriks & Valerio Serse (2021)	The incidence of VAT reforms in electricity markets. Evidence from Belgium.	The study found that the VAT reform in Belgium (cut from 21% to 6% in 2014, then reinstated to 21% in 2015) was fully passed through to electricity prices. The reform also influenced electricity demand, showing a demand elasticity between -0.09 and -0.17, with consumers responding symmetrically to both the VAT cut and hike.	Prior research lacked evidence on the pass-through effects of VAT on retail electricity prices and the symmetry of consumer responses to VAT increases and decreases.	The study used a difference-in-differences approach with business electricity prices (which are not subject to VAT) as a control group. This allowed the authors to isolate the VAT impact on residential prices and estimate the demand response accurately.
Ojochogwu Winnie Atawodi & Stephen Aanu Ojeka (2012)	Factors That Affect Tax Compliance among SMEs in North Central Nigeria	High tax rates and complex filing procedures are the main reasons for tax non-compliance. Other factors like multiple taxation and lack of awareness play a smaller role.	The study investigated the factors influencing tax compliance among SMEs in Zaria, Nigeria.	Identified the need for lower tax rates and simplified tax filing procedures to encourage voluntary compliance and SME growth.
Zhiyuan Wang, Jagdeep SinghLadhar, Howard Davey (2019)	Business tax to value-added tax reform in China	China, which has a complex system compared to New Zealand, should streamline its VAT system by reducing exemptions and reduced rates to enhance neutrality, improve efficiency, lower compliance costs, and better support economic and industrial transformation.	This study highlights a gap in understanding the problems and effects of China's shift from business tax to VAT, especially how it impacts the economy and service sectors, which hasn't been fully examined despite the reform's importance.	Examined different tax periods in China (before 1994, 1994-2012, 2012-2017), analyzed attributes of a good VAT system, and compared China's VAT with New Zealand's GST.

			Previous studies had not comprehensively analyzed the ongoing indirect tax reforms in China or compared them with international examples like New Zealand's GST	
Kumi & Kwasi (2023)	Tax education and voluntary compliance	Tax education enhances taxpayers' willingness to comply.	Did not examine resistance to tax education initiatives.	Demonstrated that education fosters compliance over enforcement.
Malefetsane Nketekete (2017)	Are Tax Treaties for the Benefits of Taxpayers or Maximisation of State Revenue? A Review of VAT Treaty between Lesotho and South Africa	The study found that certain services between South Africa and Lesotho are taxed twice when imported into Lesotho, which is contrary to the Double Taxation Agreement (DTA) and VAT regulations. This treatment appears to prioritize tax revenue maximization over the interests of taxpayers.	To examine whether the VAT treatment under the DTA aligns with the intended goal of preventing double taxation and facilitating trade between Lesotho and South Africa.	The study reviewed the VAT treaty between the two countries to analyze if such agreements favor governments over taxpayers, highlighting the balance between revenue maximization and tax relief.
Anna Kowal, Grzegorz Przekota (2021)	VAT Efficiency— A Discussion on the VAT System in the European Union	A tax system with fewer reduced VAT rates and a lower standard rate is less prone to tax fraud. Countries with higher VAT rates and multiple reduced rates tend to have a larger tax gap. VAT compliance and efficiency can be improved by reducing complexity and exemptions.	Previous studies did not analyze the relationship between VAT rate structures and tax collection efficiency across EU countries.	Used data from 27 EU countries (2011-2019) to model VAT efficiency. Analyzed the impact of VAT rate structures on tax fraud and revenue collection. Provided insights into optimizing VAT policy to enhance efficiency.

<p>Peter Morrow, Michael Smart, Artur Swistak (2020)</p>	<p>VAT Compliance, Trade, and Institutions</p>	<p>VAT compliance is generally higher at borders than for domestic transactions. Countries with weak institutions have higher VAT non-compliance. International trade plays a crucial role in improving VAT revenue collection. The compliance gap is significant in many low-income countries, but trade helps mitigate revenue losses.</p>	<p>Previous studies did not provide reliable, comparable estimates of VAT non-compliance across multiple countries, especially in low-income regions where fiscal capacity is a challenge.</p>	<p>Developed a model using national accounts data to estimate VAT compliance gaps. Analyzed the relationship between VAT revenues, imports, and institutional quality. Provided country-level estimates of VAT compliance gaps to guide policy improvements.</p>
<p>Wawire Nelson (2017)</p>	<p>Determinants of VAT revenue in Kenya</p>	<p>VAT revenue in Kenya is inelastic, with a compliance gap of -40% due to administrative inefficiencies and limited taxpayer reach; reforms like the VAT Act of 2013 have not fully addressed these issues.</p>	<p>Limited focus on specific behavioral or educational interventions to improve compliance.</p>	<p>Used econometric analysis of macro-level data (1990–2015) to quantify VAT revenue determinants, highlighting enforcement and structural weaknesses for future policy focus.</p>
<p>Wadesango N, Gift Chirebvu (2020)</p>	<p>The Impact of Value-Added Tax (VAT) on Small and Medium Enterprises in a Developing Country</p>	<p>VAT compliance is low among SMEs due to complexity, lack of awareness, high implementation costs, and economic conditions. - VAT increases operational costs, reduces business profits, and discourages SME growth. - Many SMEs evade VAT to survive economic hardships.</p>	<p>Previous studies focused on VAT at a general level, but there was limited research on how VAT affects SME operations, compliance, and growth in developing countries like Zimbabwe.</p>	<ul style="list-style-type: none"> <li>- Used survey data from 50 SMEs to analyze VAT compliance factors.</li> <li>- Examined VAT's impact on SME profitability, business risks, and compliance behaviors.</li> <li>- Suggested VAT policy changes to support SMEs.</li> </ul>
<p>Omondi, Fredrick, Mungai, John, &amp; Otieno, Charles (2021)</p>	<p>VAT productivity in Kenya</p>	<p>Digital reforms like iTax marginally reduced the VAT gap (KES 200 billion annually), but compliance remains low at 6% of GDP vs. a 9% target, driven by evasion and low awareness.</p>	<p>Insufficient exploration of platform-specific (digital vs. traditional) impacts on compliance outcomes.</p>	<p>Employed time-series analysis (1990–2017) to assess VAT productivity, suggesting digital tools' potential but calling for studies on outreach methods.</p>

<p>Mukhlis, Imam, Utomo, Hargo Satrio, &amp; Soesetio, Yudi (2015)</p>	<p>Effect of taxpayer education on compliance</p>	<p>Education increased SME compliance by -15%, but only 20% of taxpayers engage with KRA programs, indicating limited outreach scale and effectiveness.</p>	<p>Lack of comparative analysis on education delivery platforms (e.g., seminars vs. online tools).</p>	<p>Conducted surveys among SMEs to link education with compliance, recommending broader and varied educational strategies.</p>
<p>Bird &amp; Zolt (2021)</p>	<p>Effectiveness of tax education platforms</p>	<p>Interactive workshops and digital platforms are more effective than passive methods.</p>	<p>Did not analyze cost-effectiveness of digital vs. traditional tax education.</p>	<p>Showed that engagement-based tax education improves compliance.</p>
<p>Nasira Perveen &amp; Ashfaq Ahmad (2019)</p>	<p>Tax Technology, Fairness Perception, and Tax Compliance among Individual Taxpayers</p>	<p>Tax compliance in Pakistan is low due to a trust deficit between taxpayers and tax authorities. Tax technology (such as e-filing) improves tax compliance by increasing fairness perception. Perceived ease of use, usefulness, and fairness positively influence tax compliance. - Trust in tax authorities is critical for better compliance.</p>	<p>Limited research on the impact of technology on tax compliance, particularly in Pakistan. - Existing studies focus on enforcement and penalties rather than fairness perception and technology adoption.</p>	<p>Conducted a survey of 169 individual taxpayers (both salaried and self-employed) using Structural Equation Modeling (SEM) and found that leveraging technology to build trust is crucial for enhancing compliance.</p>

<p>Ben Meiselman (2017)</p>	<p>Ghostbusting in Detroit: Evidence on Nonfilers from a Controlled Field Experiment</p>	<p>The penalty salience message was the most effective at increasing tax compliance. Combining penalty salience and punishment probability slightly reduced responses compared to penalty salience alone, possibly due to information overload. Older, higher-income, and first-time nonfilers responded at higher rates.</p>	<p>Previous studies on tax compliance mainly focused on audits and corporate tax nonfilers, with limited evidence on individual income tax nonfilers.</p>	<p>Measured the effectiveness of different messages based on response rates, back-year returns filed, tax admitted, and payments remitted</p>
<p>Mascagni, Moore, &amp; McCluskey (2020)</p>	<p>Government-led tax education in East Africa</p>	<p>Simplifying complex tax laws improved compliance.</p>	<p>Lacked cross-country comparisons on tax education effectiveness.</p>	<p>Demonstrated that clearer tax regulations enhance compliance.</p>
<p>Lee &amp; Hung (2015)</p>	<p>Tax knowledge and technology in MSMEs (China)</p>	<p>MSMEs struggle with compliance due to lack of awareness and technical expertise.</p>	<p>Did not assess tax education's long-term impact on business performance.</p>	<p>Suggested digital transformation and education policies to aid MSMEs.</p>
<p>Neba Bhalla, Rakesh Kumar Sharma, Inderjit Kaur (2019)</p>	<p>Effect of Tax Knowledge and Technological Shift in Tax System on Business Performance</p>	<p>Tax knowledge improves business efficiency and reduces tax fraud. Technological advancements in tax systems lead to better tax administration and governance. MSMEs struggle with tax compliance due to a lack of awareness and technical know-how.</p>	<p>Limited research on the impact of tax knowledge and digital tax systems on MSMEs. Most studies focus on large firms, ignoring challenges faced by smaller businesses.</p>	<p>Examined 450 Indian MSMEs on how tax knowledge and technology affect business performance and provided policy recommendations for better tax education and digital transformation.</p>

Wambui, Rose, & Kiarie, James (2020)	Influence of taxpayer behavior on VAT compliance	Community-based education boosted rural compliance by 12%, but extrinsic pressures like audits foster evasion; behavior moderates policy success significantly.	Lack of empirical comparison between digital and traditional platforms' impact on behavioral change.	Used mixed methods (surveys and focus groups) to examine behavior's role, highlighting community forums' strengths but calling for digital platform studies.
Margarita Zolotukhina (2019)	The effect of the VAT threshold on the behavior of small businesses	Found evidence of bunching behavior among small businesses at the VAT threshold, varying by gender, country of birth, and business type. Compliance costs and VAT remittance changes were key factors influencing behavior.	Investigated whether businesses deliberately keep sales below the VAT threshold to avoid VAT registration and compliance costs.	Used microdata from Statistics Norway (2004–2013) and applied empirical analysis using Structural Equation Modeling (SEM) to identify behavioral patterns.
António Martins, Daniel Taborda (2017)	The purpose of tax law: A perspective on financial instruments' fair value adjustments	Found two conflicting perspectives on fair value loss deductions one supporting full deduction and another restricting it. It is concluded that purposive interpretation of tax law should allow full deduction.	Investigated whether fair value loss deductions should be restricted under corporate tax rules. Addressed inconsistencies in tax arbitration rulings.	Analyzed tax arbitration cases and legal principles to determine the most appropriate tax treatment of fair value losses.
Kioko, Naomi, & Mutua, John (2019)	Taxpayer behavior and compliance	Trust-driven behaviors increase compliance by ~20% in urban areas, but avoidance due to high costs widens the VAT gap; education can shift attitudes but is underutilized.	Limited data on how specific behavioral interventions vary by platform or region.	Analyzed SME survey data to correlate behavior with compliance, suggesting targeted education to address avoidance but noting platform gaps
Ana Clara Borrego, Cidália Maria Mota Lopes, Carlos Manuel	Tax professionals' profiles concerning tax noncompliance	Identified different tax professional profiles and their role in compliance behavior, with complexity influencing decisions.	Explored the impact of tax complexity on professionals' attitudes toward noncompliance.	Used empirical analysis to categorize tax professionals and assess their compliance behavior.

Ferreira (2021)	e and tax complexity			
Yong Mun Ching, Jeyapalan Kasipillai, Ashutosh Sarker (2016)	GST compliance and challenges for SMEs	SMEs face significant challenges in GST compliance due to costs, knowledge gaps, and administrative burdens.	Investigated the difficulties SMEs encounter in complying with the Goods and Services Tax (GST).	Conducted surveys and interviews with SME owners to assess compliance barriers and possible solutions.
Raihana Mohdali, Serkan Benk, Tamer Budak, Khadijah Mohd Isa, Salwa Hana Yussof (2020)	A cross-cultural study of religiosity and tax compliance attitudes	Found that higher religiosity is associated with greater tax compliance in both countries, though cultural differences exist.	Explored whether religious beliefs influence taxpayers' compliance attitudes.	Used survey data and statistical analysis to compare tax compliance behavior between Malaysia and Turkey.
Marina Bornman, Jurie Wessels (2018)	The role and dimensions of taxpayer commitment in tax compliance behavior	Identified various dimensions of taxpayer commitment (e.g., moral obligation, relationship with tax authorities) that impact compliance.	Investigated how taxpayer commitment affects voluntary compliance behavior.	Conducted qualitative and quantitative research to examine taxpayer attitudes and behaviors.
Tan Swee Kiow, Mohd Fuad Mohd Salleh, Aza Azlina Bt Md Kassim (2020)	Determinants of Individual Taxpayers' Tax Compliance Behaviour in Peninsular Malaysia	Ethical perception, public governance, and transparency significantly influence tax compliance behavior. Higher transparency increases compliance, but excessive transparency may reduce trust in government.	Investigated how ethical perception, governance, and transparency affect tax compliance, as previous studies lacked an integrated approach.	Conducted a comprehensive analysis linking tax compliance to governance, transparency, and ethical perception, emphasizing policy implications for improving voluntary compliance.
Lutfi Hassen Ali Al-Ttaffi, Saeed Awadh Bin-Nashwan, Muneer Rajab Amrah (2020)	The Influence of Tax Knowledge on Tax Compliance Behaviour: A Case of Yemeni	Higher tax knowledge significantly improves tax compliance among individual taxpayers. The study found that most Yemeni taxpayers lack sufficient tax knowledge,	Investigated whether a lack of tax knowledge contributes to low tax compliance in Yemen, as there was limited empirical research on this issue in the country.	Conducted a survey of individual taxpayers in Hadhramout, Yemen, analyzing their tax knowledge and compliance behavior using statistical methods.

	Individual Taxpayers	contributing to high levels of non-compliance.		
Kwok (2018)	Tax education's unintended effects	Tax knowledge can lead to revenue losses as taxpayers exploit loopholes.	Did not propose verification mechanisms to counteract misuse of knowledge.	Suggested that tax education must be paired with strict enforcement.
Diana Onu, Lynne Oats (2016)	Tax Talk: An Exploration of Online Discussions Among Taxpayers	Many taxpayers are more concerned with understanding how to comply rather than whether to comply. They rely on social networks, tax practitioners, and tax authorities for guidance. Traditional compliance research overemphasizes deterrence (audits, penalties) when taxpayers are more focused on practical compliance issues.	Investigated whether real-world taxpayer concerns match common assumptions in tax compliance research, particularly the focus on deterrence and audits.	Analyzed online discussions among freelancers and small business owners using thematic qualitative analysis to identify the real concerns of taxpayers.
Bernardus Bayu Ryanto Prakoso Putro, Christine Tjen (2020)	The impact of tax education and tax knowledge on university students in Indonesia	Students who received tax education had significantly higher tax knowledge compared to those who did not. Students with tax education also had a stronger perception of the need for tax education. However, there was no significant difference in tax knowledge between students from Java and other regions, or between male and female students.	Investigated the role of tax education in improving tax knowledge and compliance behavior among university students, as prior studies on tax literacy in Indonesia were limited.	Conducted surveys of university students across provinces in Indonesia, comparing tax knowledge levels and perceptions between those who had received tax education and those who had not.

<p>Mitchell Franklin (2018)</p>	<p>Research in Tax Education: 2010-17</p>	<p>Examined trends in tax education research over seven years, finding that technology and online learning have significantly influenced how tax is taught. Also noted a gap in studies on the impact of experiential learning in tax education.</p>	<p>Identified the need for more research on how experiential learning, such as simulations and real-world case studies, affects students' understanding of tax concepts.</p>	<p>Reviewed tax education literature, categorized key themes, and highlighted areas where further research is needed, particularly in experiential learning.</p>
<p>Alhassan Yusif Trawule, Samuel Gameli Gadzo, Holy Kwabla Kportorgbi, Richmond Sam-Quarm (2022)</p>	<p>Tax education and fear-appealing messages: A grease or sand in the wheels of tax compliance?</p>	<p>Tax education and ease of tax compliance positively influence committed tax compliance, while fear-appealing messages reduce it. Fear-based messages lead to reluctant compliance rather than voluntary compliance.</p>	<p>Examined the impact of tax education and fear-based messages on tax compliance among self-employed individuals, as previous studies had not fully explored their combined effects.</p>	<p>Used a survey of self-employed individuals in Ghana and applied hierarchical regression analysis to determine the effects of tax education, fear messaging, and convenience of compliance on taxpayer behavior.</p>
<p>Berlina Hidayati, Febrika Yogie Hermanto, Anthony Ogbolu Nnamdi (2023)</p>	<p>Tax Education and Tax Compliance: A Multi-Ethnic Analysis</p>	<p>Tax education significantly improves tax compliance across all ethnic groups in Indonesia. The highest compliance rate was among the Sundanese (73.5%) and the lowest among the Batak (47.2%).</p>	<p>Investigated the impact of tax education on tax compliance among students from different ethnic backgrounds, as previous studies had not considered the role of ethnicity in tax compliance.</p>	<p>Conducted a survey of university students from various ethnic groups and analyzed the data using the Smart PLS tool to measure the influence of tax education on compliance.</p>
<p>Vojislav Babic, Siniša Zarić (2022)</p>	<p>Tax Evasion and Education Level: Evidence from the European Union Countries</p>	<p>Higher education levels reduce tax evasion. A 1% increase in tertiary education lowers tax evasion by 6.263%. The impact of income levels on tax evasion was not statistically significant.</p>	<p>Investigated the relationship between education levels, income, and tax evasion in EU countries, as prior studies mainly focused on non-EU regions.</p>	<p>Used Eurostat macro data from nine EU countries and applied regression analysis to measure the effects of education and income on tax evasion.</p>

Nikolay Shekhovtsev (2019)	The Costs of Tax Compliance of Large Enterprises in New Zealand	Large enterprises face significant tax compliance costs, mainly from income tax, international transactions, and tax planning. Compliance costs are influenced by business complexity and overseas operations. There is no standard definition of a large enterprise in tax compliance research.	Most previous studies focused on SMEs, assuming large enterprises benefit from economies of scale. Little research has been done on large enterprises' tax compliance costs, especially in New Zealand.	Conducted semi-structured interviews with tax practitioners and a tax authority official to analyze compliance costs, their composition, and the definition of large enterprises.
Pomeranz (2015)	Audit threats vs. VAT registration in Chile	Found that compliance was driven more by audit risks and paper trails than by VAT registration.	Did not explore how VAT reforms interact with audit policies.	Suggested that enforcement mechanisms play a greater role than registration incentives.
Rufin Baghana, Pierre Mohnen (2021)	Effectiveness of Research & Development (R&D) Tax Incentives in Large Enterprises in Quebec	Large firms receive the majority of R&D tax credits but are less responsive to tax incentives compared to small firms. The study found that level-based R&D tax incentives create significant deadweight losses for large firms. Incremental R&D tax credits were found to be more effective in stimulating additional R&D spending.	Investigated whether R&D tax incentives effectively increase R&D investment in large enterprises, as previous studies mainly focused on SMEs. The effectiveness of different types of R&D tax credits had not been thoroughly examined.	Used manufacturing firm data, combining R&D surveys, annual manufacturing surveys, and administrative tax records. The study measured the price elasticity of R&D and compared the impact of level-based vs. incremental tax credits.
Gitaru, Kelvin (2017)	Taxpayer education and voluntary compliance	Education fosters trust and compliance, with seminars more effective for rapport but less scalable than digital tools; compliance gap persists due to platform reach issues.	Unclear which platform (digital or traditional) optimizes compliance across diverse taxpayer segments.	Used qualitative interviews with SMEs to compare education methods, advocating for hybrid approaches to balance trust and accessibility.
Harju (2019)	VAT threshold and small business behavior in Finland	Confirmed "bunching" effects in service sectors, reinforcing the impact of compliance costs on small firms.	Lacked comparative analysis with countries that have different VAT thresholds.	Strengthened evidence on how VAT compliance costs disproportionately affect SMEs.

Erstu Tarko Kassa (2021)	Factors Influencing Large Enterprises to Engage in Tax Evasion	Large enterprises evade taxes due to issues such as tax fairness, tax knowledge gaps, and low moral obligation. Tax fairness has the biggest impact on tax evasion among large enterprises.	Investigated why large enterprises engage in tax evasion, as previous studies mainly focused on SMEs and did not examine behavioral and fairness-related factors.	Used survey data from large enterprise taxpayers and applied statistical analysis (factor analysis, correlation, and regression) to determine the key drivers of tax evasion.
Cooper, M., & Nguyen, Q. (2020)	Multinational Enterprises (MNEs) and Corporate Tax Planning	MNEs engage in legal tax planning strategies, including profit shifting, transfer pricing, use of tax havens, and internal debt financing to reduce tax liabilities. Governments are tightening tax regulations due to concerns over base erosion and profit shifting (BEPS).	Investigated how multinational corporations reduce tax legally and the role of international business (IB) in tax planning, as previous studies mainly focused on tax laws and regulations rather than corporate strategies.	Reviewed academic papers across multiple disciplines, identifying key tax planning mechanisms used by MNEs. Suggested new research directions to bridge gaps in IB and tax planning literature.
Esmael Abdu and Mohammd Adem (2017)	Tax compliance behavior of taxpayers in Ethiopia.	It was found that tax compliance in Ethiopia is low due to a lack of tax knowledge, complexity of tax systems, personal financial constraints, and negative taxpayer attitudes.	Previous studies mainly focused on general tax compliance without examining specific factors affecting compliance in Ethiopia.	The study highlighted the importance of improving tax education, simplifying the tax system, and strengthening the efficiency of tax authorities to enhance compliance.
Roger H. Gordon, Wei Li (2017)	Chinese Enterprise Behavior Under the Reforms	Economic reforms in China increased productivity in large state-owned enterprises (SOEs) by decentralizing decision-making and linking management rewards to profits. However, tax evasion and market distortions emerged as unintended consequences	Examined the incentives created by economic reforms on large enterprises, as previous studies focused mainly on SMEs and township firms.	Analyzed state-owned enterprises, assessing changes in tax policies, investment decisions, and productivity under decentralization.

Adam Smindler (2019)	Value Added Tax Rate reduction during 2008 – 2009 UK Recession	Households increased spending on durable goods in response to lower VAT, but firms only partially passed the tax cut to consumers.	Did not explore long-term compliance effects of temporary VAT changes.	Highlighted the differing compliance responses between households and businesses.
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Table 2:1 Literature Review and Research Gap Summary

**2.5. Research Gaps**

Although tax reforms, particularly those aimed at simplifying VAT processes and integrating digital tools, have improved transparency and administration (Bhalla, Sharma, & Kaur, 2022), their effectiveness for SMEs remains unclear. Studies indicate that complex VAT systems still pose a significant burden for SMEs in developing countries (Wadesango & Chirebvu, 2020). While taxpayer education has been shown to improve compliance by increasing knowledge and perceptions of fairness (James & Alley, 2019; Mascagni, Santoro, & Mukama, 2019), its success depends on the accessibility of delivery methods, an issue for informal sector SMEs with limited digital access (Mukhlis, 2015; Bird & Zolt, 2021). Furthermore, behavioral factors such as trust in tax authorities and moral obligation significantly influence compliance (Bornman & Wessels, 2018; Kiow, 2020), yet there is still a gap in understanding how these behavioral aspects interact with reforms and education to affect VAT compliance among SMEs.

**2.6. Conceptual Framework**

According to Díaz, Demissew, Carabias, Joly, Lonsdale, Ash and Bartuska (2015) the conceptual framework is a concise description of the phenomenon being studied, together with a graphic or visual depiction of the significant factors of the research. The conceptual framework below represents the relationship between the independent and dependent variables that have been researched in this study.

This study investigates the relationship between VAT reforms, taxpayer education, and VAT compliance among SMEs in Kenya. VAT compliance is the dependent variable, influenced directly by two independent variables: VAT reforms and taxpayer education. VAT reforms, such as the introduction of eTIMS, changes in registration thresholds, and improvements in online filing

systems, are expected to affect the ease and effectiveness of VAT compliance. Similarly, taxpayer education, including training received through KRA workshops, online resources, or consultants, is anticipated to enhance SME understanding and adherence to VAT obligations. The relationship between these independent variables and VAT compliance is further moderated by taxpayer behavior. Taxpayer behavior encompasses attitudes toward compliance, motivations, and past non-compliance experiences, which can either strengthen or weaken the effect of reforms and education efforts on actual compliance levels. Together, these variables form an integrated framework for analyzing how policy and behavioral factors interact to influence VAT compliance outcomes among SMEs.

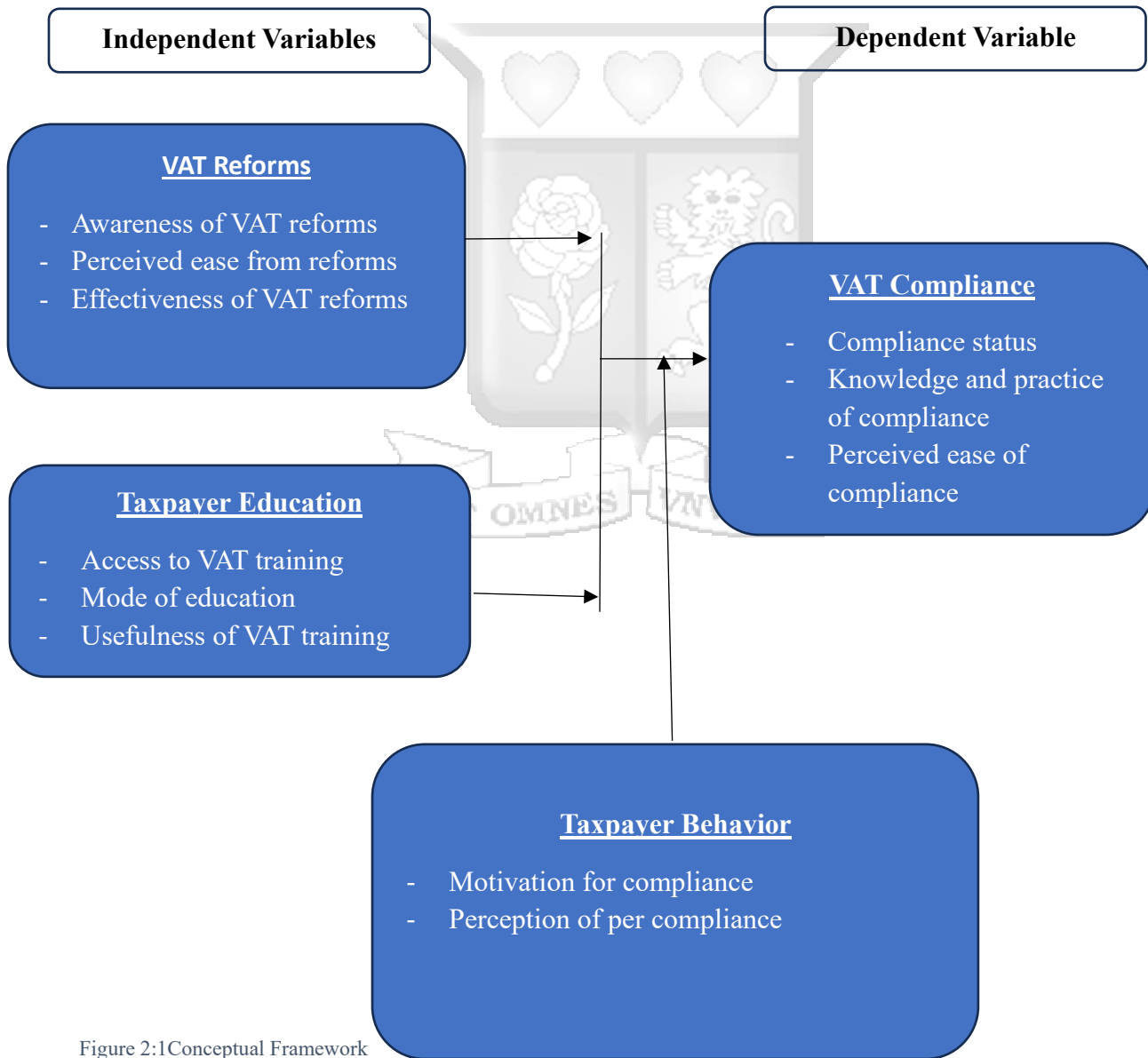


Figure 2:1 Conceptual Framework

### 2.6.1. Operationalization of Variables

The operationalization framework below explains how each variable has been measured while carrying out the research

Variables	Variable definition	Elements/ Indicators	Measurement scale	Supporting literature	Supporting theory
<b>Dependent Variable:</b> VAT Compliance	The degree to which SMEs meet their VAT obligations in accordance with tax regulations.	Perception of Fairness	Ordinal	Abdu, E., & Adem, M. (2023). Meiselman, B. (2017).	<b>Deterrence Theory:</b> Emphasizes that the fear of penalties and sanctions drives timely filing of VAT returns
		Compliance practices and challenges	Nominal and Qualitative	Mitchell Franklin (2018) Vojislav Babic, Siniša Zarić (2022) Bernardus Bayu Ryanto Prakoso Putro, Christine Tjen (2020)	<b>Deterrence Theory</b> Emphasizes that the fear of penalties and sanctions drives the registration of SMEs that have reached the VAT threshold. <b>Slippery Slope Framework:</b> Emphasizes that when taxpayers perceive tax authorities as trustworthy and fair, such as through education about digital tax systems, they are more likely to voluntarily comply and

					register for VAT upon reaching the threshold.
<b>Independent Variable</b>  VAT Reforms	Changes in VAT regulations aimed at simplifying processes and improving compliance through digital systems.	Awareness of VAT Reforms	Nominal, Ordinal and Qualitative	Wadesango and Chirebvu (2020)  Baghana and Mohnen (2021)  Morrow, Smart, and Swistak (2020)	<b>Slippery Slope Framework:</b>  Highlights that VAT reforms aimed at improving and simplifying tax administration enhance the perceived legitimacy and fairness of the tax system, thereby fostering greater trust in authorities and encouraging voluntary compliance among SMEs.
		Perceived ease from reforms	Ordinal and Qualitative	Nasira Perveen & Ashfaq Ahmad Neba Bhalla (2019)	
		Effectiveness of VAT Reforms	Qualitative	Rakesh Kumar Sharma, Inderjit Kaur(2022)	<b>Slippery Slope Framework:</b>  Highlights that VAT reforms designed to improve and simplify tax administration strengthen trust in tax authorities and increase the perceived fairness of the system, which in turn promotes voluntary compliance and encourages

					SMEs to adopt new VAT systems..
Taxpayer Education	Programs are designed to increase taxpayers' knowledge and awareness of VAT regulations and compliance requirements.	Access to VAT training	Nominal, Ordinal and Qualitative	Onu and Oats (2016)  Hidayati, Hermanto, and Nnamdi (2023)  Babic and Zarić (2022)	<b>Slippery Slope Framework:</b>  Emphasizes that educating taxpayers about digital tax systems builds trust and enhances the perceived legitimacy of tax authorities, which increases the likelihood of voluntary compliance and timely VAT registration once the threshold is reached.
		Mode of education	Nominal	Franklin (2018)	<b>Deterrence Theory</b>  Propose that once SMEs are educated on their obligations and are constantly receiving emails and messages on the penalties then there is a higher chance of compliance.
		Usefulness of VAT training	Ordinal, Nominal and Qualitative	James and Alley (2019)	

<b>Moderating Variable</b>	Taxpayer Behavior	Motivation for compliance	Nominal and Qualitative	Zolotukhina (2019)	<b>Deterrence Theory</b>  Highlights the importance of studying SMEs behaviors as it gives a better understanding of their behavior once they receive warning messages to see whether they comply due to the cost of non-compliance
	The attitudes, beliefs, and moral considerations influencing SMEs' decisions to comply with VAT regulations.	Perception of compliance	Ordinal, Nominal	Mohdali (2020)	

Table 2:2 Operationalization of Variables

### 2.7.Chapter Summary

This chapter provides an in-depth analysis of the theoretical foundations that underpin this study, specifically the Deterrence Theory and the Slippery Slope Framework. It examines how these theories relate to VAT reforms and taxpayer education, as well as their influence on VAT compliance, while considering the moderating role of taxpayer behavior. It also reviews previous literature to understand existing research findings on VAT compliance, highlighting key insights and identifying gaps that justify the need for this study. By critically analyzing past studies, the chapter establishes the connections between different aspects of VAT reforms, taxpayer education, and taxpayer behavior, setting the stage for the study's contribution to the field.

Furthermore, the chapter presents a conceptual framework that structures the study's key variables. VAT reforms and taxpayer education are categorized as independent variables, VAT compliance as the dependent variable, and taxpayer behavior as the moderating variable. To enhance clarity and ensure a systematic approach to analysis, these variables are further operationalized in a structured table, outlining their definitions, measurements, and expected relationships within the study.

# Chapter Three

## Research Methodology

### 3.1.Introduction

This chapter covers the research methodology that was used in this study. It includes research design, target population, sample and sampling techniques, research instruments, data collection procedure, and data analysis techniques.

### 3.2.Research Philosophy

This study adopted the positivist philosophy, which aligns with its objective of examining the measurable effects of VAT reforms and taxpayer education on VAT compliance among SMEs in Nairobi. Positivism is based on the assumption that reality is objective and can be observed and measured through empirical investigation (Creswell, 2014). According to Maksimovic and Evtimov (2023), positivist research emphasizes objectivity, reliability, and the use of structured methodologies, all of which are essential for producing policy-relevant findings. This philosophy also allows for the use of statistical tools to analyze relationships between variables, making it suitable for studies that seek to test hypotheses and draw generalizable conclusions. Therefore, the positivist approach was adopted to ensure that the study generates robust, evidence-based conclusions regarding VAT compliance behavior among SMEs.

### 3.3.Research Design

This study employed a descriptive research design that is quantitative in nature, as it was best suited to obtain in-depth information on VAT reforms, taxpayer education, and taxpayer behavior among SMEs. According to Bell, Bryman, and Harley (2018), research design refers to the overall plan that guides how data is collected and analyzed. The descriptive design enabled the researcher to systematically capture existing conditions, behaviors, and attitudes related to VAT compliance. A structured questionnaire was used as the primary data collection tool, comprising closed-ended questions. Responses were captured using categorical options and a 3-point Likert-type scale

where applicable, allowing for effective quantitative analysis. While the design was primarily quantitative, the inclusion of open-ended questions allowed for limited qualitative insights, adding depth to the interpretation of results. As noted by Bernard (2011), descriptive studies are effective in answering "who," "what," and "how" questions, making them ideal for examining compliance-related behaviors.

### **3.4. Population**

The target population for this study comprised approximately 2,416,368 SME business owners and employees operating in Nairobi County. This number represents individuals aged 20–54 years, who account for 41.9% of Nairobi's population and are actively engaged in business activities. The estimate is based on the 2016 KNBS MSME Survey, which provides the most recent detailed data on SME employment and activities in Nairobi. Additionally, updated figures from the United Nations in Kenya (2024) suggest that this number has increased over time, supporting the current estimate and underscoring Nairobi's role as a key hub for small and medium-sized enterprises.

### **3.5. Sampling and Sampling Technique**

The sampling frame for this study comprised 2,416,368 SME business owners and employees with accounting knowledge in Nairobi. Slovin's formula was applied to determine the appropriate sample size, given its scientific credibility and suitability for large populations. This approach was especially appropriate, as the questionnaires targeted individual respondents rather than the SMEs as entities.

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

Where;

n = Number of samples

N = Total population

E = Error tolerance (7%)

$$n = \frac{2,416,368}{1 + 2,416,368 (0.07)^2}$$

**n= 200**

*Equation 3:1 Sampling Equation*

The study utilized a total sample size of 200 SMEs, which was proportionally distributed across the three main sectors: manufacturing, wholesale and retail, and services. This distribution was based on sectoral data obtained from the KNBS, which indicated the percentage distribution of the different sectors. The sample was allocated to each sector according to its relative share of the total SME sample size, as outlined below.

<b>Strata</b>	<b>Percentage Distribution (Kenya)</b>	<b>Sample Size - 200</b>
<b>Wholesalers &amp; Retailers</b>	50%	100
<b>Manufacturers</b>	24%	48
<b>Service Sector</b>	26%	52
<b>Total</b>	<b>100</b>	<b>200</b>

*Table 3:1 Sampling Size (MSME establishment, Basic Report 2016 & United Nations in Kenya (2024))*

### **3.6.Data Collection**

This study used structured questionnaires as the main method of data collection, shared both online and in printed form. A total of 200 SME business owners and employees with knowledge of VAT or business experience in Nairobi were selected to participate. Online questionnaires were sent via email and digital platforms to reach a wider audience, while printed copies were distributed in person in areas such as the Central Business District, Eastleigh, Westlands, Ngong Road, and Gikomba. These approaches ensured inclusiveness, especially for those with limited internet access or a preference for face-to-face interaction. The data collection followed a set timeline, with regular follow-ups to encourage responses and allow enough time for participants to complete the questionnaires.

### 3.7.Data Analysis

From the selected 200 SME business owners and employees, a total of 156 responses were collected, which made up a 78% response rate. Following data collection, the analysis process commenced with systematic data cleaning, coding, and analysis using Statistical Package for Social Sciences (SPSS V30) software, ensuring that all variables were clearly defined and operationalized.

Ordinal variables were retained in their categorical form where appropriate, and the moderation effect was analyzed by creating interaction terms between the independent variables (VAT reforms and taxpayer education) and the moderating variable (taxpayer behavior). To understand the moderating effect of taxpayer behavior, two regression models were developed:

#### Model 1 (Main Effects Model)

This baseline model included only the independent variables to assess their direct effects on VAT compliance as follows;

$$\text{logit}(P(Y \leq j)) = \beta_0j + \beta_1X_1 + \beta_2X_2$$

*Equation 3:2 Model 1 (Independent Variables)*

#### Model 2 (With Moderation)

This model incorporated the moderating variable and interaction terms to evaluate how taxpayer behavior modified the relationship between VAT reforms, taxpayer education, and VAT compliance:

$$\text{logit}(P(Y \leq j)) = \beta_0j + \beta_1X_1 + \beta_2X_2 + \beta_3M + \beta_4(X_1 \times M) + \beta_5(X_2 \times M)$$

*Equation 3:3 Model 2 (Introduction of the moderating variable)*

Comparison between the models helped determine whether taxpayer behavior significantly moderated the relationship between the independent variables and VAT compliance. After establishing the relationship between the independent and moderating variables, the dependent variable, VAT compliance, was measured on an ordinal scale. Consequently, ordinal logistic regression was employed, as it is suitable for analyzing relationships involving an ordinal outcome. The ordinal logistic regression model estimated the log odds of the dependent variable being at or below a particular category and was expressed as:

$$\text{logit}(P(Y \leq j)) = \ln (P(Y \leq j)/1 - P(Y \leq j)) = \beta_0j + \beta_1X_1 + \beta_2X_2 + \beta_3M$$

Where:

- (Y) = VAT Compliance

P (Y ≤ j) - Cumulative probability of “Y” being less than or equal to category “j” (where ( j ) represents the thresholds between ordinal levels)

X\_1 (VAT\_Reform\_Index) - VAT Reforms (Independent Variable)

X\_2(Tax\_Education\_Index) - Taxpayer Education (Independent Variable)

- M (Moderator\_Index) - Taxpayer Behavior (Moderating Variable)

$\beta_{0j}$  - Threshold (intercept) for category ( j )

$\beta_1, \beta_2, \beta_3$  - Regression coefficients representing the effect of each predictor

*Equation 3:4 Data Analysis Equation*

This ordinal logistic regression allowed the estimation of how changes in the independent variables affected the likelihood of VAT compliance falling into higher versus lower categories. The coefficients “ $\beta$ ” indicated the direction and strength of these effects, with positive values suggesting an increased probability of higher compliance categories.

Given that the questionnaire included open-ended questions that required interpretation to uncover patterns, meanings, and insights, the responses were analyzed using thematic content analysis. This involved carefully reviewing the answers and identifying common themes that reflected underlying trends in the data. This qualitative approach complemented the ordinal regression analysis by offering deeper context and understanding that could not be captured through numbers alone.

### **3.7.1. Variance Inflation Factor Test**

This study utilized the Variance Inflation Factor (VIF) to assess multicollinearity among multiple predictors, as VIF provides a more robust analysis than correlation matrices by quantifying the inflation in the variance of regression coefficients due to collinearity, with values exceeding 10 indicating severe issues, thereby enabling a clearer understanding of problematic variables or interactions and facilitating adjustments like centering variables or removing predictors.

### **3.8. Research Quality**

A diagnostic test was conducted to ensure the accuracy, reliability, and validity of the data analysis methods, enhancing the transparency of the research findings. In this study, heteroscedasticity tests and multicollinearity tests were performed to assess the suitability of the ordinal logistic regression model in examining the effect of VAT reforms on VAT compliance among SMEs and the moderating role of taxpayer behavior.

#### **3.8.1. Heteroscedasticity Test**

To ensure the reliability of the regression model, the study tested for heteroscedasticity, which occurs when the variance of the residuals is not constant across all levels of the independent variables (Munir, 2023). To check for heteroscedasticity in this study, the Modified Wald test was used. This test helped determine whether the error terms had a consistent variance pattern. If the variance was consistent, it meant the results of the analysis were more reliable.

#### **3.8.2. Reliability**

In this study, the researcher used a well-defined and clear questionnaire as a data collection method. To measure the reliability of the questionnaire, Cronbach's alpha was used, and if the alpha was below 0.7, there was a need to revise the questionnaire.

#### **3.8.3. Validity**

In this study, the validity of the research tool was checked using the Kaiser-Meyer-Okin (KMO) test, which measured if the sample size was adequate for analysis, and Bartlett's test, which checked if the data was suitable for factor analysis.

### **3.9. Ethical Considerations**

Ethical considerations were crucial to ensuring the validity and credibility of this research. This study underwent ethical review and approval by the Strathmore Institutional Ethics and Scientific Review Committee (SERSRC) and the National Commission for Science, Technology, and Innovation (NACOSTI) in compliance with national research regulations.

In collecting primary data, strict ethical guidelines were followed to protect respondents' rights and privacy. To ensure ethical compliance, respondents were assured of confidentiality, and informed consent was obtained before data collection. All responses were anonymized and used strictly for research purposes, ensuring the integrity of the study. Participation was entirely voluntary, ensuring respondents provided informed consent without coercion. The study also ensured that structured questionnaires were professionally designed, avoiding intrusive or inappropriate questions that could cause discomfort, fear, or anxiety.

### **3.10. Chapter Summary**

This chapter outlines the research methodology used in the study, which adopted a positivist research philosophy and covered research design, target population, sampling techniques, data collection methods, and data analysis procedures. A descriptive research design that was quantitative in nature was used to analyze the effect of VAT reforms, taxpayer education, and taxpayer behavior on VAT compliance. The study population was 2,416,368 SME business owners and employees and used Slovin's formula to determine a smaller sample size of 200 respondents distributed across the manufacturing, wholesale and retail, and service sectors. A structured questionnaire, distributed both online and in person, served as the primary data collection tool. Data was analyzed using SPSS V30 software, applying descriptive and inferential statistical methods, including multiple linear regression analysis. Ethical considerations were strictly observed, with the study undergoing approval from Strathmore's ethics committee and NACOSTI. Respondents' confidentiality and voluntary participation were upheld, ensuring that all data collected was used solely for academic purposes.

# Chapter Four

## Research Findings

### 4.1.Introduction

This chapter presents the data collected covering the general information section, the effects of VAT reforms, and the effectiveness of taxpayer education on the level of VAT compliance, as well as the moderating effect of taxpayer behavior in determining the level of compliance. The chapter explains the results, analyzes the data, and interprets what it means.

### 4.2.Response Rate

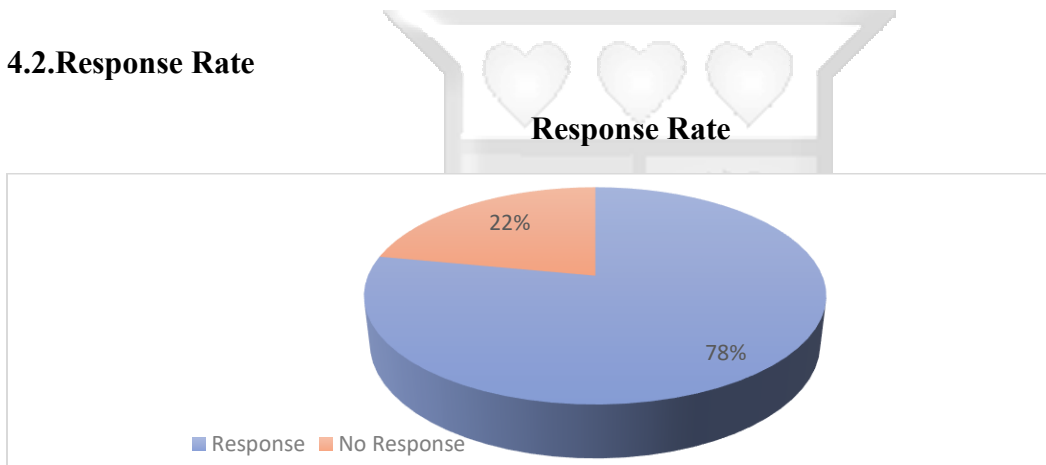


Figure 4:1Response Rate

This study had a sample size of 200 SME owners and employees, and 156 responses were obtained for analysis, giving a response rate of 78%. According to (Mugenda & Mugenda, 2013), a response rate of above 70% is good therefore, the response was very good for the study.

### 4.3.Demographic Information

The demographic information section of the questionnaire aimed to gather high-level background data about the respondents and their businesses. It sought to identify the sector in which each business operates, the size of the business based on annual turnover, the respondents' role within the business, their age group, and the duration the business has been in operation.

Category	Subcategory/Details	Percentage (%)
<b>Business Sector</b>	Service	50%
	Manufacturing	20%
	Wholesale & Retail	18%
<b>SME Annual Turnover</b>	Below Ksh 5 million	44%
	Between Ksh 5.1 million – Ksh 100 million	27%
	Above Ksh 100 million	29%
<b>Respondents' Role</b>	Owner	44.9%
	Accounting/Finance	39.1%
<b>Respondents' Age Group</b>	Below 30 years	49.4%
	31–49 years	28.2%
	50 years and above	22.4%
<b>Duration of Business Operation</b>	Less than 3 years	23.7%
	Between 4–10 years	45.5%
	Over 11 years	30.8%

Table 4:1 Demographic Information

The findings show that the manufacturing sector, the wholesale and retail sector, and the service sector had a percentage of 20%, 18% 50%, respectively. In terms of annual turnover, 44% of businesses reported earnings below Ksh 5 million, which was the highest category, whereas 27% reported earnings between Ksh 5.1 million and Ksh 100 million, being the lowest category. For roles within the business, 44.9% were identified as owners, and 39% fell under accounting/finance roles. Regarding age groups, those below 30 years were at 49.4%, while those aged 50 and above

at 22.4%. Lastly, 45.5% of businesses had been operating between 4 to 10 years, and 23.7% had been operating for less than 3 years.

#### 4.4.Descriptive statistics

This section presents a summary of the descriptive statistics for the effects of VAT reforms and taxpayer education on VAT compliance and the moderating effect of taxpayer behavior. It covers perceptions and experiences related to VAT reforms, taxpayer education, taxpayer behavior, and VAT compliance practices.

##### 4.4.1. The Effects of VAT Reforms on VAT Compliance on SMEs

The objective of these findings was to identify the effects of VAT reforms on the level of compliance, which was assessed using three indicators: VAT reform awareness, VAT reform effectiveness, and VAT reform compliance effect.

##### 4.4.1.1.VAT Reforms Awareness

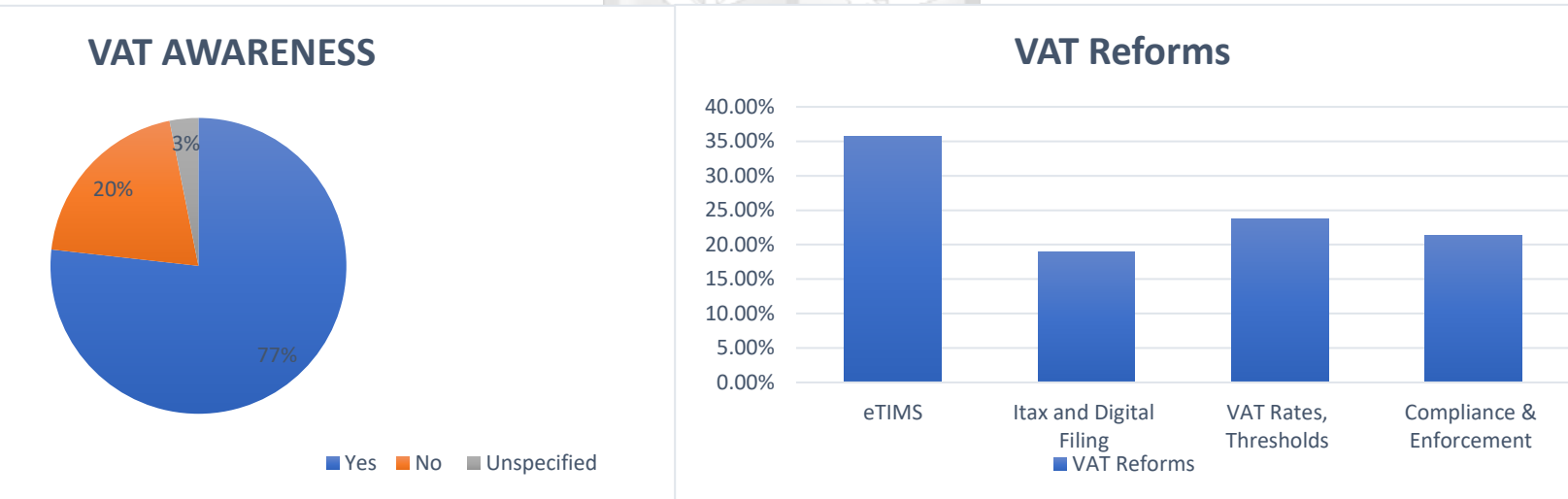
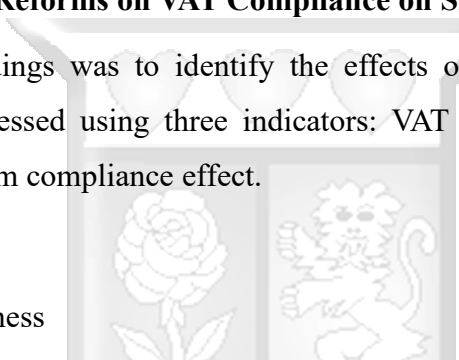


Figure 4:2 VAT Reforms Awareness

The findings show that 77% of the business owners and accountants were aware of the VAT reforms. Among the reforms they were aware of, 35% were more aware of the Electronic Tax Invoice Management System (eTIMS), 24% stated they were aware of changes in VAT rates and thresholds, 21% referred to compliance and enforcement measures, and 19% mentioned iTax and digital filing systems.

#### 4.4.1.2. VAT Reforms Effectiveness

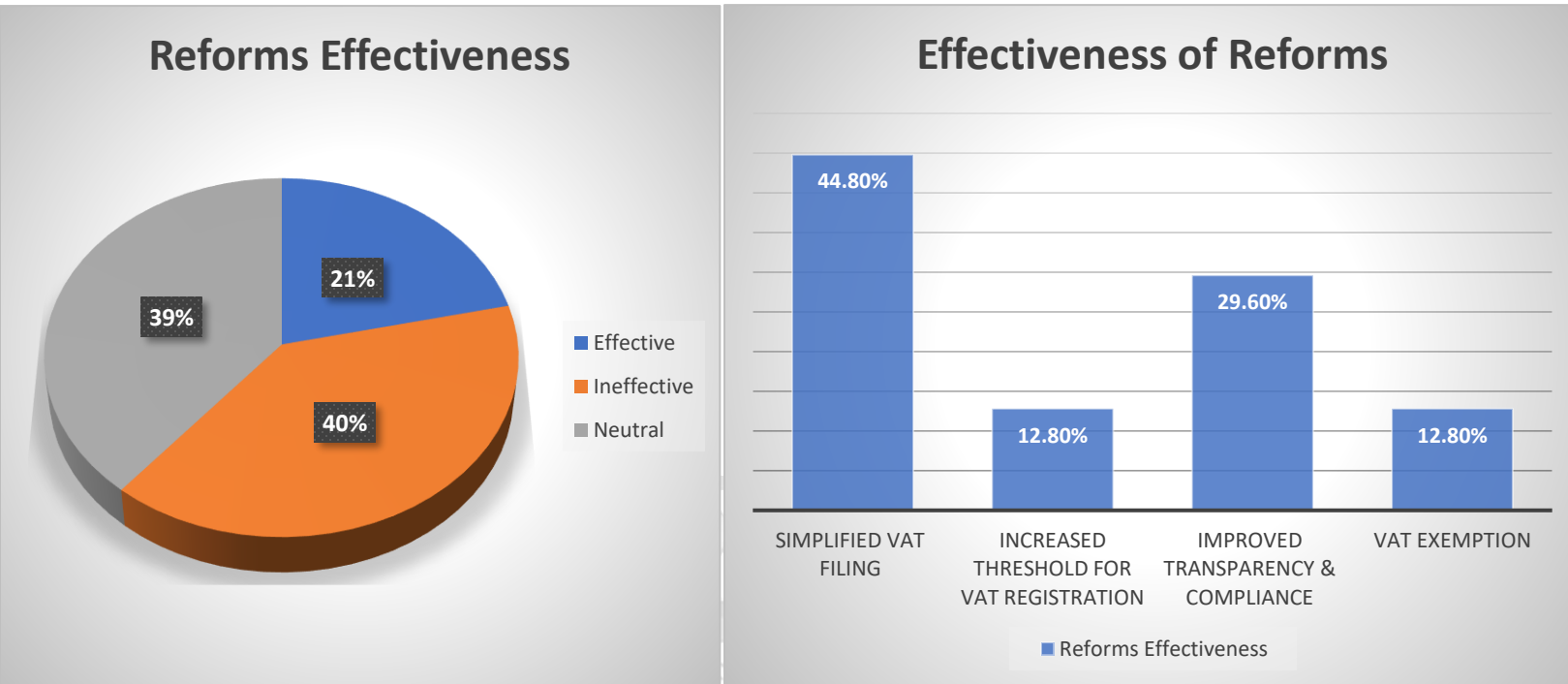


Figure 4:3 VAT Reforms Effectiveness

VAT reforms, as in the above diagram, are seen as ineffective, with 40% of the business owners and accountants expressing this view, with only 21% of them stating that the VAT reforms are effective. To improve the effectiveness of these reforms, simplified VAT filing stands out with 44.80% of support. This is followed by improved transparency and compliance, which is viewed as effective by 29.60%.

### 4.4.1.3. Perceived Ease of VAT Reforms

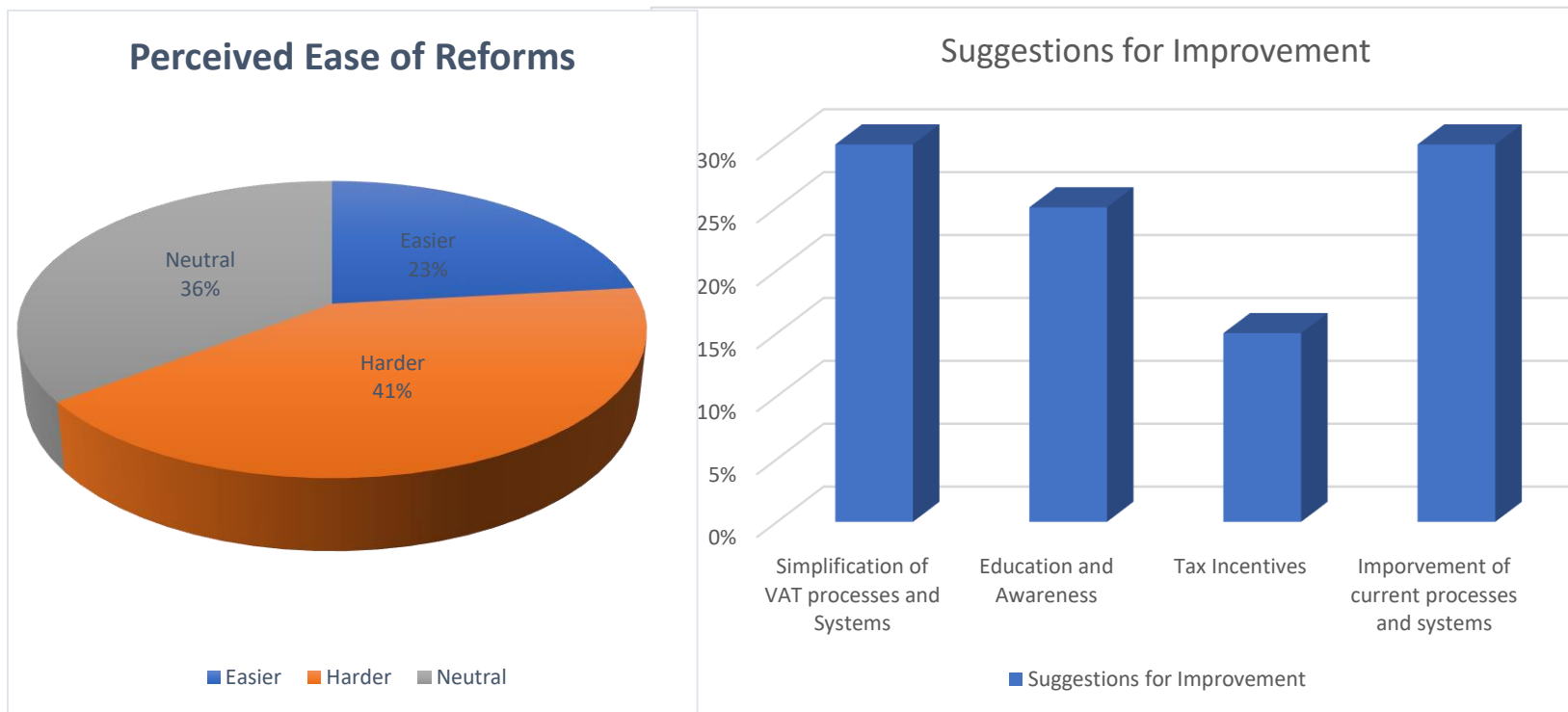


Figure 4:4 Perceived Ease of VAT Reforms

The data shows that 41% of the business owners and the accountants perceive VAT reforms as harder to implement, while only 23% find them easier. To address this challenge, the suggestions are the improvement of current processes and systems and the simplification of VAT processes and systems, each receiving support from over 30%.

#### 4.4.1.4. VAT Reforms on compliance Summary

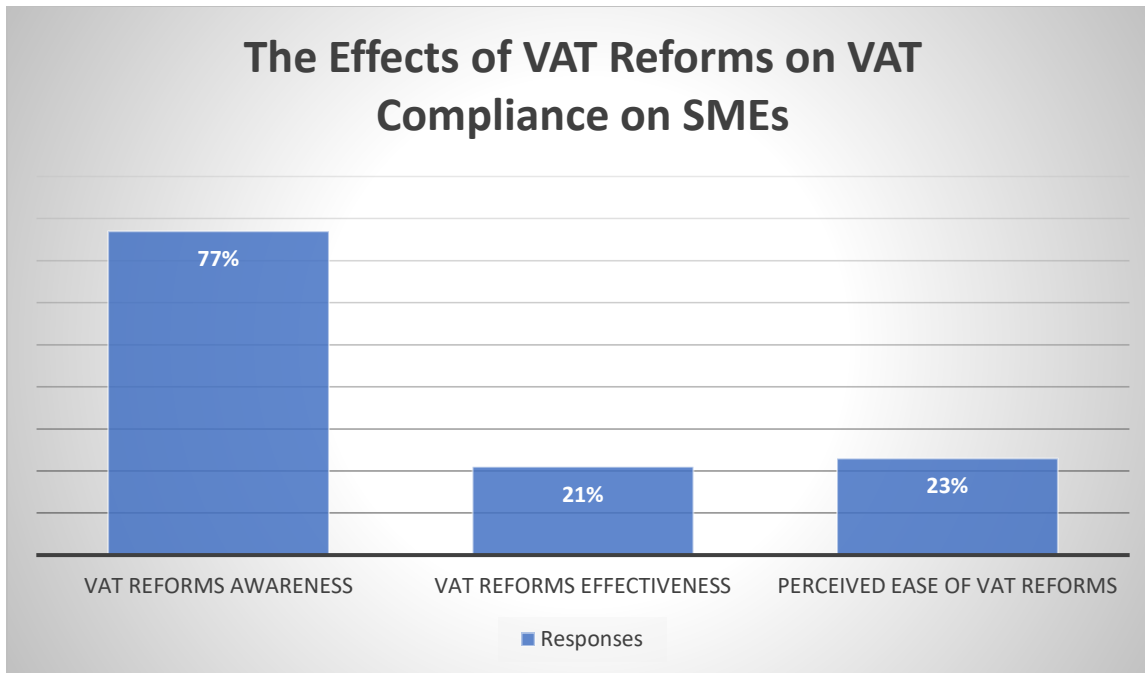


Figure 4:5 Summary of VAT Reforms on Compliance

From the above, we see that 77% of the business owners and accountants are aware of the VAT reforms, showing a high level of awareness. However, only 21% of the business owners and accountants view the reforms as effective in improving VAT compliance, and 23% perceive the reforms as easy to understand or implement.

#### 4.4.2. The Effectiveness of Taxpayer Education on VAT Compliance on SMEs

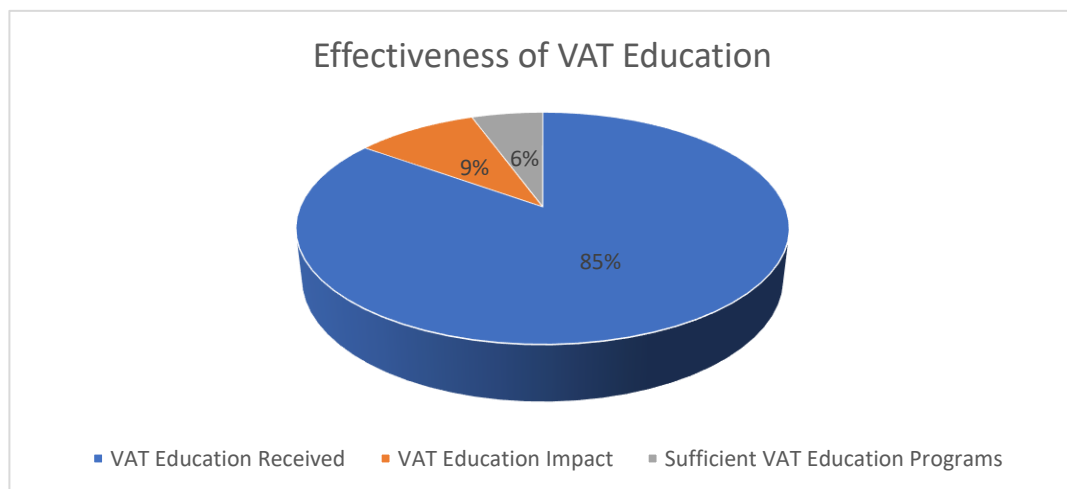


Figure 4:6 Effectiveness of VAT Education

The objective of this section was to assess the effectiveness of taxpayer education on VAT compliance. The pie chart illustrates the distribution of responses across three categories. A majority, representing 85%, indicated VAT Education Received. This is followed by 9% under VAT Education Impact, and 6% categorized as Sufficient VAT Education Programs.

#### 4.4.2.1. Taxpayer Education Improvement Suggestions

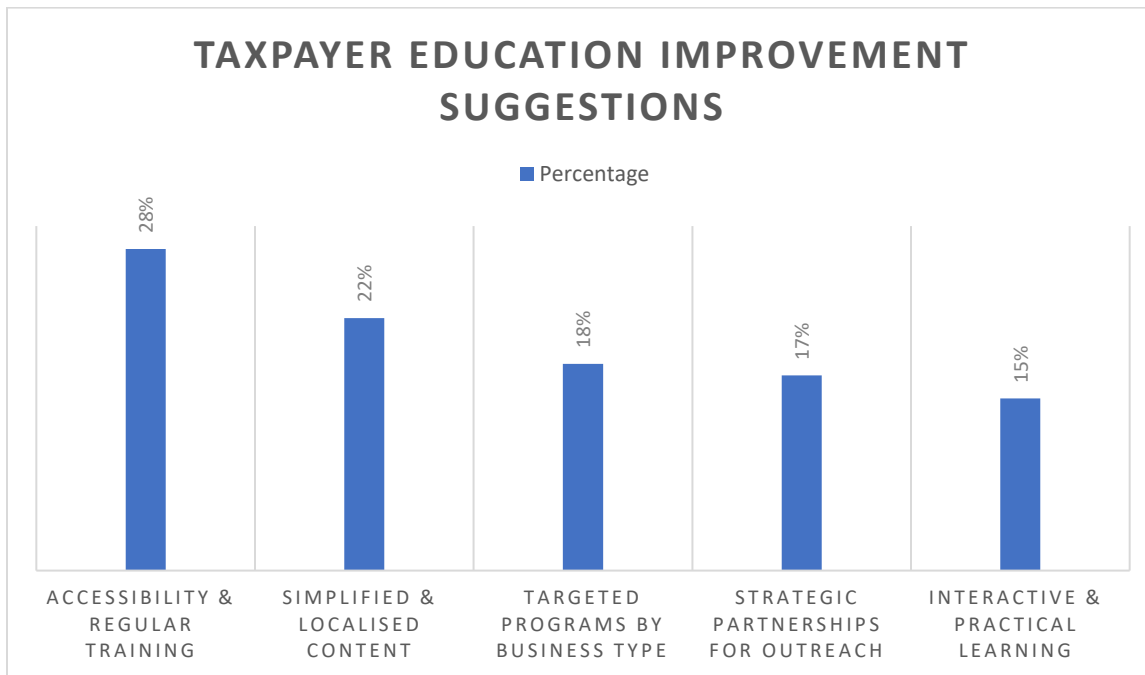


Figure 4:7 Taxpayer Education Improvement Suggestions

The chart shows that the suggestions for improving taxpayer education focus on making training more accessible and regular (28%) and simplifying and localizing content (22%). These findings highlight the need to provide consistent learning opportunities through various platforms and to use easy-to-understand materials tailored to different audiences.

#### 4.4.3. The Moderating Effects of Taxpayer Behavior on VAT Reforms and Taxpayer Education and Compliance among SMEs

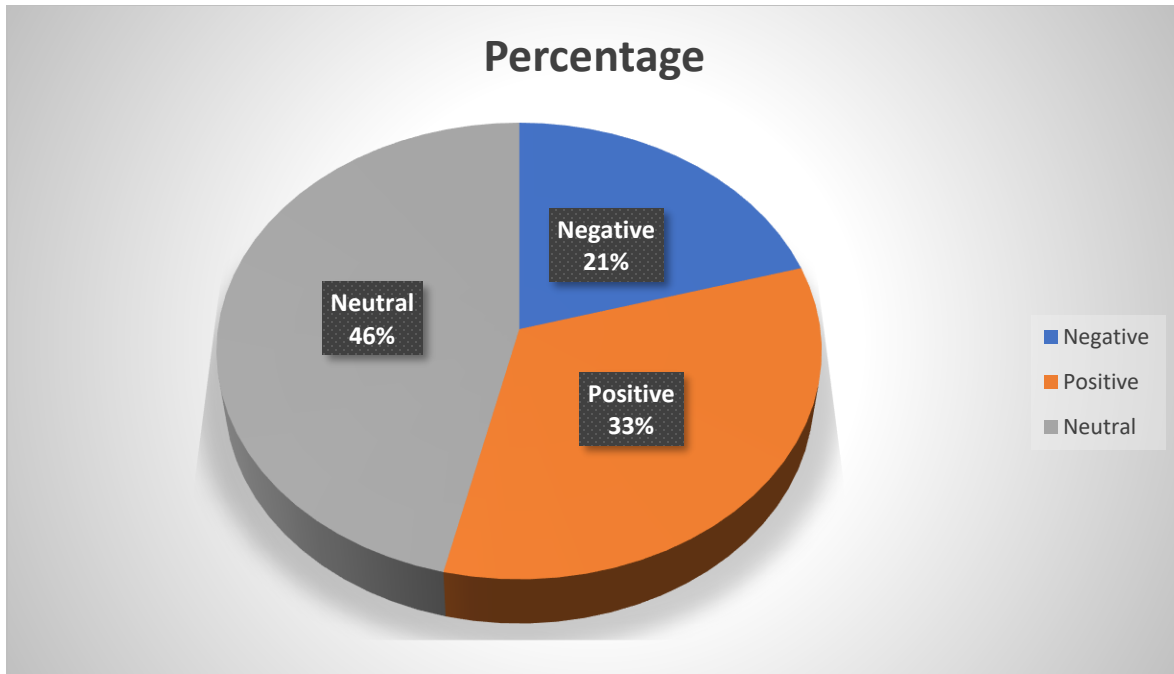


Figure 4:8: Feeling towards VAT Reforms

The findings on the moderating effects of taxpayer behavior indicate that 46% held a ‘neutral’ stance toward VAT reforms, followed by 33% showed a ‘positive’ perception of the reforms, and 21%, reported having a ‘negative’ view of the VAT reforms. These results suggest that while a significant portion of taxpayers remain undecided or indifferent, there is a notable leaning toward positive sentiment.



#### 4.4.3.1. VAT Compliance Motivating Factors

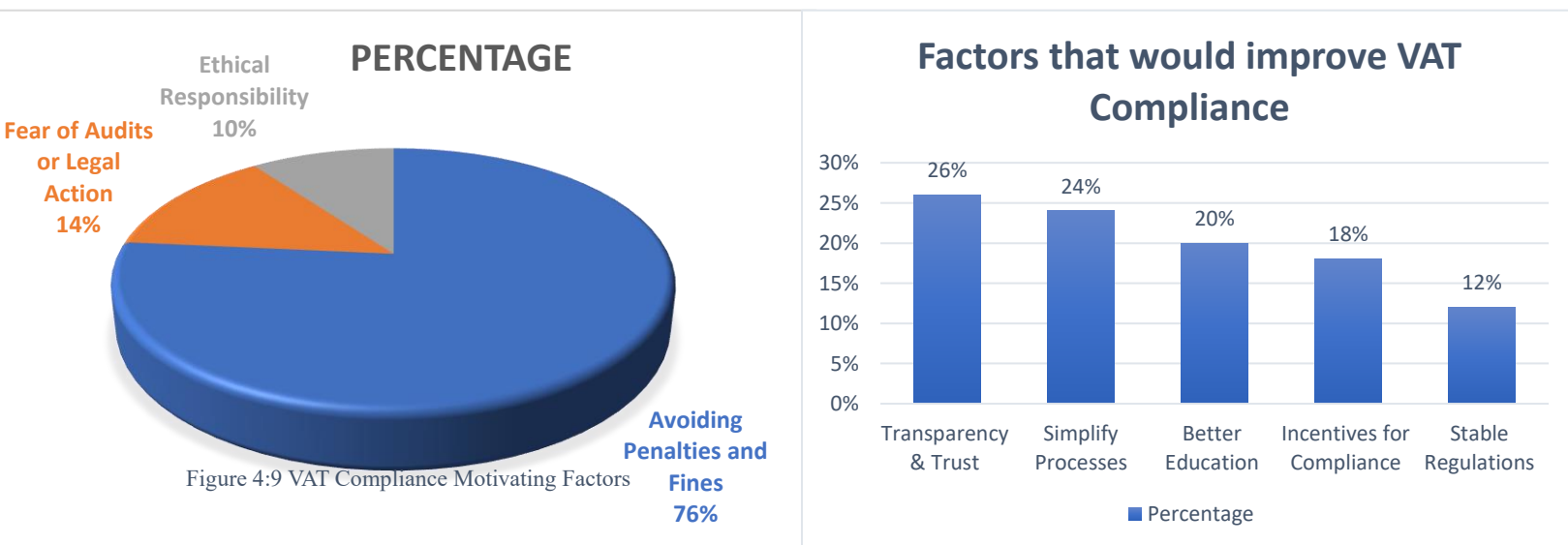


Figure 4:9 VAT Compliance Motivating Factors

From the above pie chart, we see that avoiding penalties and fines is at 76%, being the main reason for VAT compliance, with VAT by 76%, with 10% complying out of ethical responsibility, and 14% due to fear of audits or legal action. Transparency and trust ranked first in improving VAT compliance, followed by simplifying processes, and the least was stable regulations and providing incentives for compliance.

#### 4.4.4. SME VAT Compliance in Nairobi

Compliance Method	Frequency
Proper Bookkeeping and Accounting	96
Accountants and Tax Professionals	95
KRA Updates	53
Use of eTIMS	52
Taxpayer Education	22

Table 4:2 Compliance Methods

From the methods used to comply by the SMEs, which they were allowed to select multiple methods, 96 selected proper bookkeeping and accounting as their chosen method to ensure compliance. This was closely followed by reliance on accountants and tax professionals, with a frequency of 95. Other commonly cited methods included staying updated with KRA communications (53) and using the eTIMS system (52). Taxpayer education was the least chosen method, with a frequency of 22.

#### 4.5. Statistical Assumptions

Before conducting logistic regression, essential statistical assumptions were considered. These include the independence of errors, absence of multicollinearity, and the linearity of continuous independent variables with the logit of the dependent variable.

##### 4.5.1. Multicollinearity Test (Based on VIF)

Based on the SPSS output, the Variance Inflation Factor (VIF) values were computed to check for multicollinearity among the predictors.

The results are summarized below:

#### 4.5.1.1.VIF Multicollinearity Test for VAT Reforms and Taxpayer Education

<b>Variable</b>	<b>VIF</b>	<b>Tolerance</b>
<b>VAT_Reform_Index</b>	2.12	0.472
<b>Tax_Education_Index</b>	2.12	0.472

Table 4:3 VIF Multicollinearity Test for VAT Reforms and Taxpayer Education

Both variables have VIF values below 5, indicating no serious multicollinearity.

#### 4.5.1.2.VIF Multicollinearity Test for Taxpayer Behavior

<b>Variable</b>	<b>VIF</b>	<b>Tolerance</b>
<b>VAT_Reform_Index</b>	5.28	0.189
<b>Tax_Education_Index</b>	5.22	0.191
<b>Moderator_Index by VAT_Reform_Index</b>	9.80	0.102
<b>Moderator_Index by Tax_Education_Index</b>	9.65	0.104

Table 4:4 VIF Multicollinearity Test for Taxpayer Behavior

The above shows that the interaction terms show higher VIF values, which are close to 10, indicating moderate to high multicollinearity. However, these values remain acceptable for moderated regression analysis.

## 4.6. Correlation Analysis

**Correlation Matrix**

		Constant	VAT_Reform_Index	Tax_Education_Index	Moderator_Index by VAT_Reform_Index	Moderator_Index by Tax_Education_Index
Step 1	Constant	1.000	.050	-.561	-.035	.112
	VAT_Reform_Index	.050	1.000	-.819	-.977	.933
	Tax_Education_Index	-.561	-.819	1.000	.795	-.861
	Moderator_Index by VAT_Reform_Index	-.035	-.977	.795	1.000	-.962
	Moderator_Index by Tax_Education_Index	.112	.933	-.861	-.962	1.000

Table 4:5 Correlation Matrix

The provided SPSS output did not include a standard bivariate correlation matrix (e.g., Pearson) showing the direct correlations between the computed index variables (VAT\_Reform\_Index, Tax\_Education\_Index, Moderator\_Index) and the VAT Compliance dependent variable prior to regression. Such analysis would typically precede regression to gauge initial relationships. Therefore, the associations are primarily inferred from the subsequent regression models.

## 4.7. Regression Analysis

### 4.7.1. Main Effects of VAT Reforms and Taxpayer Education

Variable	B	Sig.	Exp(B)	Interpretation
VAT_Reform_Index	1.367	.000	3.923	Significant positive effect
Tax_Education_Index	0.348	.647	1.416	Not significant
Constant	-3.388	.000	0.034	Low odds of compliance with zero predictors

Table 4:6 Main Effects of VAT Reforms and Taxpayer Education

Model1:

$$\text{logit}(P(Y \leq j)) = -3.388 + 1.367X_1 + 0.348X_2$$

Where:

X<sub>1</sub> = VAT Reforms

X<sub>2</sub> = Taxpayer Education

*Equation 4:1 Effects of VAT Reforms and Taxpayer Education*

The logistic regression results indicate that the VAT\_Reform\_Index is a significant predictor of compliance, with a coefficient of 1.367. This suggests that for each unit increase in the VAT\_Reform\_Index, the odds of compliance increase by a factor of 3.923, highlighting the strong positive effect of VAT reforms.

In contrast, the Tax\_Education\_Index, with a coefficient of 0.348, is not statistically significant, indicating that tax education does not have a meaningful effect on compliance in this model. The constant term (−3.388,  $p < .001$ ) indicates the baseline log-odds of compliance when all predictors are zero, suggesting a low likelihood of compliance without the influence of VAT reforms or tax education.

#### 4.7.2. Moderating Effects of Taxpayer Behavior

Variable	B	Sig.	Exp(B)	Interpretation
VAT_Reform_Index	−6.044	.006	0.002	Significant negative main effect
Tax_Education_Index	4.625	.011	102.396	Significant positive main effect
VAT_Reform_Index × Moderator_Index	4.272	.000	71.600	Significant positive moderation
Tax_Education_Index × Moderator_Index	−2.672	.002	0.069	Significant negative moderation
Constant	−2.875	.000	0.056	Low odds baseline

*Table 4:7 Moderating Effects of Taxpayer Behavior*

Model 2:

$$\text{logit}(P(Y \leq j)) = -2.875 - 6.044X_1 + 4.625X_2 + 4.272(X_1 \times M) - 2.672(X_2 \times M)$$

Where:

$X_1$  = VAT Reforms (Independent Variable)

$X_2$  = Taxpayer Education (Independent Variable)

$X_1 * M$  = VAT Reforms (Moderated)

$X_2 * M$  = Taxpayer Education (Moderated)

*Equation 4:2 Moderating Effects of Taxpayer Behavior*

The results show that taxpayer behavior significantly moderates the effect of both VAT reforms and tax education on compliance. VAT reforms are more effective when taxpayers are cooperative and compliant, as shown by the strong positive interaction. Conversely, tax education only improves compliance when taxpayer behavior is favorable, otherwise, it may have little or even a negative effect.

#### **4.8. Chapter Summary**

This chapter presents the findings on VAT compliance among SMEs in Nairobi, focusing on three key areas: the effects of VAT reforms, the effectiveness of taxpayer education, and the moderating role of taxpayer behavior. The study reveals that VAT reforms have a significant positive effect on compliance, particularly when taxpayers demonstrate cooperative and informed behavior. However, the effect of taxpayer education alone is limited, as its effectiveness improves only when taxpayers are positively inclined toward compliance. Many SMEs are aware of reforms such as eTIMS and iTax but find some aspects burdensome or unclear. Taxpayer education programs are viewed as insufficient by the majority, with suggestions pointing to the need for more practical, simplified, and accessible training. Overall, the findings highlight that reforms and education must be supported by positive taxpayer behavior to achieve meaningful improvements in compliance.

# Chapter Five

## Discussions, Conclusions, and Recommendations

### 5.1.Introduction

This chapter presents a discussion of the key findings, conclusions, and recommendations drawn from the study and the study limitations with regard to the effects of VAT reforms and the effectiveness of taxpayer education and the moderating effect of taxpayer behavior on VAT compliance among SMEs in Nairobi.

### 5.2.Summary of the Findings

The general objective of the study was to determine the effect of VAT reforms and Taxpayer education on VAT compliance among SMEs in Nairobi while assessing the moderating effect of taxpayer behavior. The study established that VAT reforms significantly enhance VAT compliance among SMEs in Nairobi. While taxpayer education programs are in place, their effectiveness in promoting compliance is limited unless supported by a positive compliance attitude among taxpayers and the use of sectoral tax education. The findings further demonstrate that taxpayer behavior plays a critical moderating role, strengthening the effect of both VAT reforms and taxpayer education on compliance outcomes when trust and perceived fairness are present.

This study contributes to both research and policy by showing that VAT reforms and online taxpayer education often create challenges for SMEs in Nairobi due to limited infrastructure, low digital skills, and trust issues. It highlights the need for more practical, face-to-face education, simpler systems tailored to SME needs, and a smoother rollout process for technological reforms, making tax compliance easier and more effective.

### 5.3.Discussions

The findings from the descriptive and inferential analyses provide valuable insights into the complex interplay between VAT reforms, taxpayer education, taxpayer behavior, and compliance among the SMEs in Nairobi County.

### 5.3.1. VAT Reforms and VAT Compliance on SMEs in Nairobi

The study found that while awareness of VAT reforms was relatively high, only a minority viewed the reforms as effective. Systems like eTIMS and iTax, though designed to simplify VAT filing through auto-population, were still marred by issues such as invalid receipts, delays, and supplier-related limitations. This reflects broader challenges in VAT administration faced by developing economies, as emphasized by Wawire (2017), who observed that despite streamlining efforts, Kenya's VAT system remains constrained by administrative inefficiencies and low compliance. The negative perception of VAT reform effectiveness also echoes concerns raised by Barbone, Bonch-Osmolovskiy, and Poniowski (2015), who found that while multiple VAT exemptions can ease burdens on essential services, their complexity introduces significant implementation difficulties.

Furthermore, the findings show that the reforms made compliance harder, largely due to increased administrative burdens and technological inefficiencies in systems like eTIMS and eTIMS Lite. This sentiment aligns with Shekhovtsev (2019), who found that even large firms with more resources experience high compliance costs due to system complexity and changing regulations. Similarly, Baghana and Mohnen (2021) observed that despite some benefits from incentives, navigating new tax reforms still imposed a high-cost burden. While automation theoretically streamlines VAT filing, there is a need for better education, communication, and system reliability. This reflects findings by Chiaji (2024), who reported that automation can significantly enhance VAT compliance only when systems are user-friendly and supported by effective taxpayer education.

On the other hand, some qualitative responses noted benefits such as error reduction and time savings through auto-populated returns, suggesting a partial success of digital reforms. This parallels the experience of Peru as documented by the IMF (2018), where e-invoicing led to improved VAT reporting, but only after adequate infrastructure and training were put in place. Additionally, proposed improvements include raising the VAT registration threshold and providing compliance incentives like tax credits and refund suggestions supported by studies such as Atawodi and Ojeka (2012), which found that lower tax burdens and targeted incentives improved tax morale and compliance among SMEs.

### **5.3.2. Taxpayer Education and VAT Compliance on SMEs in Nairobi**

The study revealed that while VAT education had been administered, most found its effect on compliance to be minimal or neutral, and two-thirds believed that current educational programs are insufficient. These findings point to a major gap in how taxpayer education is delivered, particularly for SMEs. There was emphasis on the need for simpler, localized, and more accessible platforms such as WhatsApp, YouTube, and TikTok, alongside more interactive, on-ground, and inclusive training sessions. This reflects the argument by Mukhlis (2015) that structured education significantly enhances compliance when tailored to the local context.

Similarly, Mascagni, Moore, and McCluskey (2020) noted that simplified and targeted educational content boosts understanding and voluntary compliance, especially in East Africa. However, the study also underscores a mismatch between the education strategies used and the actual needs of taxpayers. Gitaru (2017) raised a similar concern, suggesting that while digital tools offer scalability, traditional engagement builds trust and is often more effective in reaching underserved populations.

Additionally, the overreliance on fear-based messaging was criticized, which is also highlighted by Alm (2017) and Chirisa (2022), who argue that such approaches may temporarily increase compliance but ultimately erode trust. The lack of effect among many participants aligns with Trawule (2022), who found that while education improves understanding, it must be paired with ease of compliance and positive messaging to be truly effective. Therefore, while tax education is vital, its success in improving VAT compliance depends on the relevance, delivery format, and tone of communication, revealing a clear need for more adaptive and inclusive education platforms.

### **5.3.3. The Moderating Effect of Taxpayer Behavior on VAT Reforms, Taxpayer Education, and VAT Compliance among SMEs in Nairobi**

The findings indicate that taxpayer behavior significantly moderates the relationship between VAT reforms, taxpayer education, and VAT compliance. While many had a neutral or positive view of the reforms, actual compliance behavior was most influenced by avoiding penalties rather than ethical responsibility or fear of audits. This aligns with Torgler and Schneider (2015), who argue that even well-designed reforms or educational efforts may fall short if taxpayer behavior is shaped by distrust or indifference. For instance, although reforms like eTIMS were introduced to simplify

compliance, SMEs primarily relied on traditional methods such as bookkeeping and professional support, with tax education being the least utilized. This reflects the findings of Lee and Hung (2015), who emphasize that a lack of awareness and technical skills limits the effect of digital reforms among small businesses.

Furthermore, preferences expressed for clearer laws, transparency in tax usage, and reduced threat-based communication underscore that behavior is shaped not just by structural reform but also by how reforms are perceived and communicated. Hindriks and Serse (2021) similarly show that economic incentives alone are insufficient if taxpayers remain behaviorally resistant or uninformed. Additionally, the observed reliance on reactive motivators like penalties suggests that intrinsic compliance is still weak, a dynamic that echoes Adam's (2019) insight that economic responses to VAT policy changes differ between consumers and businesses based on behavioral sensitivity. Therefore, while reforms and education are critical, their success is largely contingent on behavioral alignment, trust, and perceived fairness, highlighting the essential role of taxpayer behavior as a moderating variable in shaping VAT compliance outcomes.

#### **5.4. Conclusions**

The study established that while VAT reforms in Nairobi have achieved high awareness among SMEs, their perceived effectiveness remains limited. Although initiatives like eTIMS and iTax were introduced to streamline compliance, many SMEs continue to face challenges such as administrative burdens, unreliable systems, and a lack of supportive infrastructure. These limitations have hindered the intended benefits of the reforms, with compliance largely driven by enforcement rather than ease of use. Thus, the effect of VAT reforms on SME compliance is constrained by systemic inefficiencies and a lack of trust-enhancing features. This finding aligns with the Slippery Slope Framework (Kirchler, Hoelzl, & Wahl, 2008), which emphasizes that tax compliance arises through a balance of coercive power and trust in tax authorities. When reforms are perceived as complicated or punitive rather than supportive, voluntary compliance is weakened, and SMEs respond primarily out of fear of penalties rather than a cooperative attitude.

In examining the effectiveness of taxpayer education, the study found that while many SMEs have received some form of VAT education, its influence on compliance behavior remains low. The education platforms currently in use do not align well with the needs of SMEs, with many calling for simpler, more localized, and engaging forms of VAT education. Traditional seminars lack scale,

while digital tools risk excluding less tech-savvy users. Moreover, fear-based messaging undermines trust and reduces the potential of education to drive long-term voluntary compliance. These findings reinforce SSF insights from Gangl, Hofmann, Kirchler, and Sonntag (2016) and Hofmann et al. (2014), which suggest that taxpayer education, when delivered in a way that fosters understanding and transparency, builds trust and enhances compliance. However, when education is perceived as coercive or disconnected from real business needs, it fails to strengthen the trust necessary for voluntary compliance, especially among SMEs in informal or semi-formal sectors.

Finally, the study confirms that taxpayer behavior plays a crucial moderating role in shaping the relationship between both VAT reforms and taxpayer education on compliance outcomes. While many SMEs acknowledge reforms and education efforts, their actual compliance decisions are heavily influenced by behavioral factors such as the fear of penalties, perceived fairness, and trust in the system. When behavior is misaligned, due to confusion, distrust, or poor communication, reforms and education alone fail to deliver meaningful change. This directly supports the Slippery Slope Framework, which underscores the importance of cultivating both trust-based and power-based motivations for tax compliance (Kirchler, Hoelzl, & Wahl, 2008; Gangl et al., 2015). Enhancing VAT compliance among SMEs in Nairobi thus requires more than just technical reforms or formal education programs, it demands strategies that reinforce the legitimacy, fairness, and transparency of tax administration, while also acknowledging the behavioral and contextual realities of SMEs operating in diverse economic environments (Mascagni, 2018; Cyan, Koumpias, & Martinez-Vazquez, 2016).

## **5.5.Recommendations**

### **5.5.1. The Effects of VAT Reforms on VAT Compliance on SMEs in Nairobi**

In light of the study's findings, it is recommended that the KRA, in collaboration with the other government agencies, undertake a comprehensive review of current VAT reforms with a specific focus on their practical applicability to SMEs. While the legislative intent of the reforms, particularly under the Tax Procedures Act and the VAT Act 2013, is to simplify compliance, enhance transparency, and broaden the tax base, their implementation has, in many instances, resulted in increased administrative burdens and limited access to input tax credits for non-compliant supply chains. To address this, a phased and consultative approach to implementing

digital systems such as eTIMS and eTIMS Lite should be adopted, ensuring that SMEs are adequately supported through taxpayer education, transitional reliefs, and targeted incentives. Additionally, KRA should consider issuing guidelines that clarify compliance expectations, extend input tax claim periods, and mitigate the compliance burden for lower-tier SMEs. Such reforms, if grounded in principles of fairness, proportionality, and administrative efficiency, will not only improve voluntary compliance but also restore confidence in the VAT system among SME taxpayers.

### **5.5.2. The Effectiveness of Taxpayer Education on VAT Compliance on SMEs in Nairobi**

Based on the study's findings, it is clear that while taxpayer education programs have reached a majority of SMEs in Nairobi, their overall effect on VAT compliance remains limited due to gaps in content relevance and delivery methods. To address this, KRA should diversify its approach beyond digital webinars by introducing more in-person, localized training sessions in business hubs like Gikomba and Industrial Area. These should include interactive formats, such as live Q&A sessions and one-on-one engagements, to allow SMEs to ask questions and receive tailored guidance. Additionally, VAT education content must be simplified and made more practical. This includes using visual aids like infographics, short explainer videos in English and Swahili, and platform-friendly formats on WhatsApp, YouTube, and TikTok. Sector-specific modules should also be developed to reflect the unique compliance challenges of different industries such as retail, consulting, or agriculture.

Moreover, critical topics such as VAT registration, timely filing, and penalties, currently underrepresented, should be prioritized in future training. Continuous learning should be encouraged through regular updates, mobile-based tutorials, and refresher programs. To enhance accessibility and relevance, KRA should collaborate with local institutions like county governments, SACCOs, and SME associations for grassroots outreach. Embedding VAT education into everyday environments, such as supermarkets or M-Pesa outlets, would also increase visibility and engagement. Finally, KRA should shift its messaging from enforcement to empowerment by highlighting the tangible benefits of compliance, such as access to tenders, loans, and market opportunities. These recommendations aim to foster a more inclusive, practical, and responsive VAT education framework that supports meaningful compliance among Nairobi's SMEs.

### **5.5.3. The Moderating Effect of Taxpayer Behavior on VAT Reforms, Taxpayer Education and VAT Compliance among SMEs in Nairobi**

Based on these findings, this study recommends that the KRA and other relevant policymakers redesign VAT education and reform strategies to be more behaviorally informed, practical, and incentive-driven. Education programs should move beyond fear-based compliance messaging and instead emphasize the tangible benefits of VAT compliance, such as faster refunds, access to finance, and improved business credibility, while also simplifying processes and providing clear, accessible guidance tailored to different business types. Communication should be delivered in user-friendly formats, including visual guides, short videos in Swahili, and step-by-step toolkits, ensuring inclusivity for all SMEs regardless of their digital or formal literacy levels. Finally, increased transparency on tax utilization and more visible improvements in public services can help build trust and intrinsic motivation, fostering a compliance culture rooted not in fear, but in understanding and shared value.

### **5.6. Limitations of the Study**

A notable limitation of this study is its narrow geographic focus, as it concentrated solely on SMEs in Nairobi. This restricts the applicability of the findings to the broader national context, as SMEs in other regions may face different economic, regulatory, and infrastructural circumstances that influence their tax compliance behavior.

Additionally, the study did not examine the long-term effects of VAT reforms and taxpayer education, which are critical to understanding sustained compliance. By excluding the time-based dimension and the evolving role of taxpayer behavior, the study lacks a comprehensive view of how these factors affect compliance over time.

### **5.7. Areas for Further Research**

From the perspective of VAT reforms, future research should seek to understand how administrative and procedural changes better support tax compliance among SMEs across different regions of Kenya. While this study focused on Nairobi, VAT compliance challenges may vary widely in other regions due to differences in infrastructure, economic activity, and regulatory

enforcement. It is important to examine how reforms such as digital invoicing systems, simplified registration procedures, and easier filing processes can be adapted to regional needs while remaining compliant with national tax laws.

With regard to taxpayer education, more research is needed to evaluate the effectiveness of current educational strategies used by KRA and other stakeholders. Future studies should explore how region-specific training, the use of local languages, visual materials, or community-based outreach could enhance understanding of tax obligations. It would also be valuable to examine how technology, such as mobile applications, online tutorials, or text message reminders, can be practically used to deliver targeted, accessible education to small businesses in both urban and rural areas.

From the taxpayer behavior perspective, this study highlights the need to explore how attitudes, beliefs, and levels of trust in the tax system influence compliance decisions. Even where VAT reforms and taxpayer education exist, behavior remains a key determinant of whether businesses voluntarily meet their VAT obligations. Further research should investigate how trust in the fairness and transparency of KRA affects compliance, and how behavioral strategies, such as timely reminders, simplified communication, incentives, or public recognition, can encourage SMEs to act in accordance with tax laws.

## **5.8. Chapter Summary**

This chapter summarized the key findings, conclusions, and recommendations of the study, which examined how VAT reforms and taxpayer education affect VAT compliance among SMEs in Nairobi, with taxpayer behavior as a moderating factor. The study found that while awareness of reforms like eTIMS and iTax is high, their perceived effectiveness is low due to system inefficiencies, administrative burdens, and limited accessibility, especially for smaller businesses. Although taxpayer education efforts exist, their effect on compliance is minimal without simplified, localized delivery and a shift away from fear-based messaging. The study highlighted that taxpayer behavior, driven by trust, perceived fairness, and fear of penalties, plays a crucial role in strengthening or weakening the effects of reforms and education. The conclusions stress that successful VAT compliance requires more than just policy or education; it depends on how

SMEs perceive and interact with these initiatives. Therefore, recommendations focused on making reforms more SME-friendly, improving education platforms with relatable and accessible content, and building trust through transparent communication and incentives. Despite its focus on Nairobi, the study provides valuable insights for policymakers and the KRA, while also identifying areas for future research across different regions and over longer periods.



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## Appendices

### Appendix I: Introduction Letter

The Accountant/ Manager/ Owner

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Nairobi, Kenya

Dear Sir/Madam,

RE: **REQUEST TO CONDUCT DATA COLLECTION**

I am a student at Strathmore University pursuing my Master's Degree in Commerce and conducting research on "The effects of tax reforms on tax compliance among smes in nairobi: moderated by taxpayer behavior."

You have been identified as a key respondent for this study, and I kindly request your participation by completing the attached questionnaire. The information you provide will be used strictly for academic purposes and will be treated with the highest level of confidentiality.

Your insights will contribute to a better understanding of how VAT reforms influence compliance among SMEs and the role taxpayer behavior plays in this relationship. A copy of the final report can be made available to you upon request.

I sincerely appreciate your time and support in this research.

Best regards,



Wairimu Kinyua  
168921  
Strathmore University

## Appendix II: Ethical Review



15<sup>th</sup> April 2025

Ms Kinyua Wairimu,  
nimokinyua@gmail.com

Dear Ms Kinyua,

**RE: Effects of VAT Reforms and Taxpayer Education on Tax Compliance  
Among SMEs in Nairobi: Moderated by Taxpayer Behavior**

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** proposal. Your application reference number is **SU-ISERC2904/25**. The approval period is from **15<sup>th</sup> April 2025 to 14<sup>th</sup> April 2026**.

This approval is subject to compliance with the following requirements:


- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
- iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
- iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours.
- v. Clearance for the export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.


Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke/> and obtain other clearances needed.

Yours sincerely,

**Mr Ambrose Rachier,  
Chairperson; SU-ISERC**


Appendix III: NACOSTI License


**REPUBLIC OF KENYA**  
 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION


**NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION**

Ref No: **953906**
Date of Issue: **15/April/2025**


**RESEARCH LICENSE**




**This is to Certify that Ms. Wairimu Nyandunyu Kinyua of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: EFFECTS OF VAT REFORMS AND TAXPAYER EDUCATION ON TAX COMPLIANCE AMONG SMES IN NAIROBI: MODERATED BY TAXPAYER BEHAVIOR for the period ending : 15/April/2026.**

License No: **NACOSTI/P/25/4172950**

Applicant Identification Number: **953906**

  
 Director General  
**NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION**

**Verification QR Code**  


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**See overleaf for conditions**

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

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

**CONDITIONS OF THE RESEARCH LICENSE**

1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to.
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way:
  - i. Endanger national security
  - ii. Adversely affect the lives of Kenyans
  - iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
  - iv. Result in exploitation of intellectual property rights of communities in Kenya
  - v. Adversely affect the environment
  - vi. Adversely affect the rights of communities
  - vii. Endanger public safety and national cohesion
  - viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
4. Neither the license nor any rights thereunder are transferable.
5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
6. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research.
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9. The Commission may monitor and evaluate the licensed research project for the purpose of assessing and evaluating compliance with the conditions of the License.
10. The Licensee shall submit one hard copy, and upload a soft copy of their final report (thesis) onto a platform designated by the Commission within one year of completion of the research.
11. The Commission reserves the right to modify the conditions of the License including cancellation without prior notice.
12. Research, findings and information regarding research systems shall be stored or disseminated, utilized or applied in such a manner as may be prescribed by the Commission from time to time.
13. The Licensee shall disclose to the Commission, the relevant Institutional Scientific and Ethical Review Committee, and the relevant national agencies any inventions and discoveries that are of National strategic importance.
14. The Commission shall have powers to acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country.
15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

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

## Appendix IV: Questionnaires

### Introduction

Value Added Tax (VAT) is a key source of government revenue, yet compliance among Small and Medium Enterprises (SMEs) remains a challenge. This questionnaire aims to assess the effects of tax reforms, specifically looking at VAT reforms and taxpayer education on VAT compliance among SMEs in Nairobi, Kenya, while also examining the moderating role of taxpayer behavior. The findings will help evaluate the effectiveness of VAT policies, identify compliance challenges, and provide insights for improving tax administration. Your participation is crucial in contributing to a better understanding of VAT compliance dynamics.

### Instructions

Please respond to the following questions and, where applicable, mark the relevant box with a tick (✓).

#### PART A: GENERAL INFORMATION

1. Where do you work? (Optional)

\_\_\_\_\_

2. What is the primary industry or sector of your business?

**Wholesale & Retail** - supermarket, hardware, kiosk, boutique, shop.

**Manufacturing** - handicraft, furniture workshop, electronics, vehicle assembly, textile manufacturing, bakery, printing

**Service** - logistics, educational, creative, lifestyle (restaurant, event planning), professional services

- Wholesale and Retail
- Manufacturing
- Service
- Other. \_\_\_\_\_

3. What is the size of your business based on annual turnover?

- Below KSH 5 million
- KSH 5.1 million – KSH 100 million
- Above KSH 100 million

4. What is your position in the business?

- Owner
- Accountant/Finance Officer
- Other (Please specify) \_\_\_\_\_

5. What is your age group?

- Below 30 years of age
- Between 31 – 49 years of age
- Above 50 years of age

6. How long has the business been in operation?

- Less than 3 years
- Between 4 – 10 years
- Over 11 years



## SECTION B: VAT REFORMS AND COMPLIANCE

For this section kindly give a brief description where required and mark the relevant box with a tick (✓).

1. Is your business registered for VAT?

- Yes
- No

2. If yes, are you aware of the filing and payment timelines to remain compliant?

- Yes
- No

3. Are you aware of the recent VAT reforms introduced by the government?

- Yes
- No

4. Do you think the current VAT System is fair and supportive of SMEs?

- Strongly disagree
- Neutral

Strongly agree

5. Which VAT reforms have affected your business operations (both positively and negatively)

- .
- .
- .
- .
- .

6. Have VAT reforms made it harder or easier for your business to comply with VAT regulations?

- Easier
- Neutral
- Harder

7. How would you define the effectiveness of VAT reforms on improving compliance?

- Effective
- Neutral
- Ineffective

8. How do you ensure your business remains VAT compliant?

- Using an accountant or tax professional
- Attending taxpayer education programs
- Keeping up with KRA updates
- Using electronic tax invoicing systems (eTIMS)
- Ensuring proper bookkeeping and accounting practices
- Other:

9. What challenges, if any, does your business face in complying with VAT regulations?

a) \_\_\_\_\_

b) \_\_\_\_\_

10. What improvements would you suggest enhancing VAT compliance among SMEs?

a) \_\_\_\_\_

b) \_\_\_\_\_

## SECTION C: VAT EDUCATION AND COMPLIANCE

For this section kindly give a brief description where required and mark the relevant box with a tick (✓).

1. Have you ever received any form of taxpayer education or VAT training?  
 Yes  
 No
2. How did you receive VAT education?  
 On ground workshops and training  
 Online Webinars  
 Other:
3. To what extent has taxpayer education helped you understand VAT compliance requirements better?  
 Great Extent  
 Neutral  
 No impact
4. What areas of VAT education have been most useful to your business?  
 VAT registration threshold and process  
 Filing and paying VAT returns  
 Audit process and understanding the importance of proper bookkeeping  
 Timeliness and penalties for non - compliance  
 Use of electronic tax invoicing (eTIMS)  
 Other:
5. Do you feel there are enough taxpayer education programs to help SMEs comply with VAT regulations?  
 Agree  
 Neutral  
 Disagree
6. Would you attend more VAT training sessions if they were available?  
 Yes

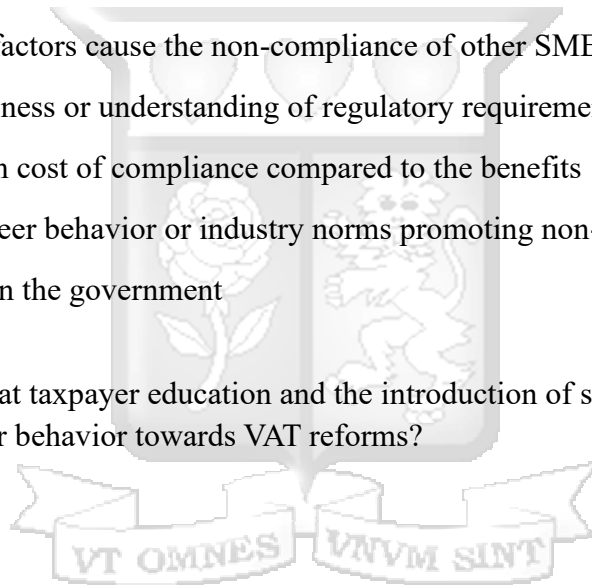
- No
7. What platform would you prefer?
- Online webinars
- On-the-ground taxpayer training
- Other:
8. What challenge do you face in accessing VAT education?
- Lack of time to attend training
- Limited availability of training programs
- Difficulty understanding tax laws
- High cost of hiring tax professionals
- Other:
9. What suggestions do you have for improving VAT education for SMEs?
- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_

#### **SECTION D: TAXPAYER BEHAVIOR AS A MODERATING FACTOR IN VAT COMPLIANCE**

**For this section kindly give a brief description where required and mark the relevant box with a tick (√).**

1. How would you describe your feeling towards VAT compliance
- Positive
- Neutral
- Negative
2. What motivates your business to comply with VAT regulations
- Avoiding penalties and fines
- Understanding the benefits of compliance
- Fear of audits or legal action
- Ethical responsibility as a taxpayer

- Other:
3. Have you ever intentionally delayed or avoided filing VAT returns?
- Yes
- No
4. If yes, what were the main reasons for non-compliance?
- Lack of funds to pay VAT
- Complexity of the VAT process
- Lack of awareness or knowledge about VAT requirements
- Belief that VAT is unfair to SMEs
- Other:
5. What behavioral factors cause the non-compliance of other SMEs in your sector?
- Lack of awareness or understanding of regulatory requirements
- Perceived high cost of compliance compared to the benefits
- Influence of peer behavior or industry norms promoting non-compliance
- Lack of trust in the government
- Other:
6. Do you believe that taxpayer education and the introduction of simplified VAT reforms influence taxpayer behavior towards VAT reforms?
- Agree
- Neutral
- Disagree
7. What would encourage you to improve your VAT compliance behavior?
- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_



**Thank you for participating!**