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Determinants of Value Added Tax compliance and moderating role of startup size in Kenya.

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DETERMINANTS OF VALUE ADDED TAX COMPLIANCE AND MODERATING ROLE OF START UP SIZE IN KENYA

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DECLARATION

This research thesis is my original work and has not been submitted in any institution/ college for the purpose of examination. I declare with great certainty that all content within the thesis comes from my own work with proper acknowledgment given to previously published or authored material.

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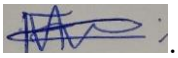
Signature: ……  …….. Date: ……19/05/2025……

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ABSTRACT

VAT compliance is crucial for effective tax administration and significantly contributes to government revenue. However, Kenya's VAT compliance rate is currently below the target, resulting in substantial revenue losses. This study aimed at assessing the determinants of Value Added Tax (VAT) compliance among startups in Kenya, with a specific focus on the moderating effect of startup size. The study identified four key determinants: tax knowledge, compliance costs, taxpayer perception, and technological changes, while also exploring how startup size influences these relationships. Drawing on theoretical foundations such as Fiscal Exchange Theory, Economic Deterrence Theory and the Taxable Capacity Theory, the study investigated both voluntary and enforcement-driven compliance mechanisms. The study, carried out between March and April 2025 employed an explanatory research design to examine the relationships, targeting 308 startups in Nairobi County, with a sample size of 174 determined through stratified random sampling. Primary data was collected using structured questionnaires, and data analysis was conducted using both descriptive and inferential statistics, with Ordinal Logistic Regression applied to assess the moderating effect of startup size. The study findings revealed that Value Added Tax (VAT) compliance among startups in Kenya have effects on tax knowledge, compliance cost, taxpayers' perception and technological changes. The study further revealed that there was a strong positive correlation between Value Added Tax (VAT) compliance among startups and tax knowledge, compliance cost, taxpayers' perception and technological changes. Results showed that increases in tax knowledge, compliance costs, taxpayer perception, and technological changes significantly improved VAT compliance among startups. Additionally, startup size significantly moderated these effects, strengthening the positive relationships between determinants and compliance. The study concludes that tax knowledge, compliance costs, taxpayer perception and technological changes significantly enhance VAT compliance among startups. The study contributes by quantifying the impact of key determinants on VAT compliance using an ordinal regression approach while highlighting the role of startup size as a moderator, which is rarely addressed in prior research. Limitations include the cross-sectional design and focus on startups in Nairobi County, which may affect generalizability. The study recommends that, the Kenya Revenue Authority (KRA), in collaboration with startup support organizations, should develop and implement comprehensive tax education programs. The government, through the National Treasury and KRA, should consider streamlining tax compliance processes to reduce unnecessary financial and administrative burdens. Future studies could explore compliance with other tax obligations, such as corporate income tax, excise duty, or withholding tax.

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LIST OF ABBREVIATIONS

ATAF	African Tax Administration Forum
eTIMS	Electronic Tax Invoice Management System
ETR	Electronic Tax Register
GST	Goods and Service Tax
ICMS	Integrated Customs Management Systems
IEA	Institute of Economic Affairs
IMF	International Monetary Fund
JB	Jarque-Bera
K-R	Kunder-Richardson
KRA	Kenya Revenue Authority
MTD	Making Tax Digital
NACOSTI	National Commission for Science, Technology and Innovation
OECD	Organization for Economic Co-operation and Development
OLR	Ordinal Logistic Regression
SPSS	Statistical Package for Social Scientists
TIMS	Tax Information Management Systems
U.S	United States of America
VAT	Value-Added Tax
VIF	Variance Inflation Factor

OPERATION DEFINITION OF TERMS

Compliance Costs: Compliance costs refer to the expenditure's businesses must incur to meet regulatory obligations, whether local, national, or international. These costs are essential to ensure businesses operate within the legal framework and avoid penalties, while also maintaining public trust (Liu, 2023).

Startup in Kenya is considered an MSME, with its classification (micro, small, or medium) determined by its annual turnover, number of employees, and sector-specific criteria (Cruz & Hernandez Uriz, 2022). If a startup's annual turnover exceeds KSh 5 million, it is required to register for VAT. Startups below this threshold may opt for voluntary VAT registration or may qualify for other tax regimes, such as Turnover Tax, depending on their specific circumstances.

Startup Size: Startup size is defined using various metrics such as the number of employees, annual revenue, or business valuation. These dimensions significantly influence a startup's potential for growth and its ability to navigate regulatory and operational challenges (Kuhn & Wambach, 2021).

Startups: Startups are newly established businesses that focus on innovation and the creation of scalable, repeatable business models. These companies typically aim to disrupt existing markets or introduce entirely new markets with innovative products or services (Harrison & Cummings, 2021).

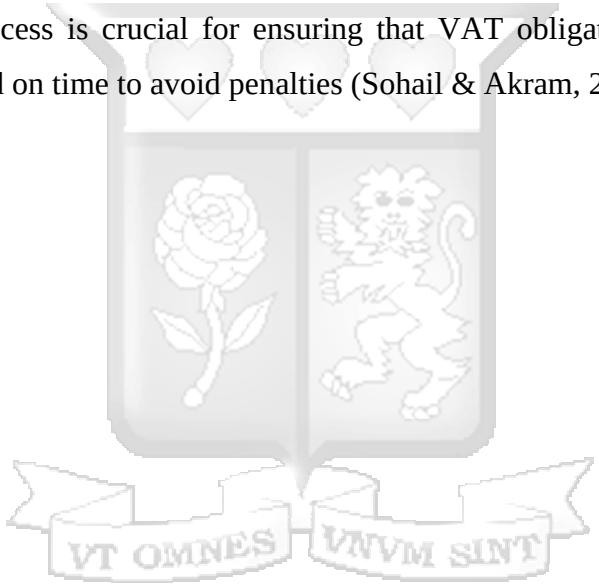
Tax Knowledge: Tax knowledge refers to the understanding of tax laws, regulations, and the role taxes play in society. Individuals with adequate tax knowledge can better comply with tax obligations and appreciate the broader fiscal responsibilities they hold (Ng & Bakar, 2022).

Taxpayer Perception: Taxpayer perception involves how taxpayers view the tax system, including its fairness, effectiveness, and the way they interact with tax authorities. These perceptions strongly influence taxpayer behavior,

including voluntary tax compliance and engagement with the system (Buchanan & Slemrod, 2020).

Technological Changes: Technological changes in tax administration include advancements that simplify the tax reporting process, improve compliance efficiency, and reduce human error. The adoption of new technologies, such as blockchain and artificial intelligence, has made tax compliance faster and more accurate (Zhang et al., 2022).

Value Added Tax (VAT) Compliance: VAT compliance refers to businesses' adherence to legal requirements for collecting, reporting, and remitting VAT. This process is crucial for ensuring that VAT obligations are met accurately and on time to avoid penalties (Sohail & Akram, 2023).



CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Tax compliance is a fundamental issue in public finance, as it directly impacts the ability of governments to generate sufficient revenue for development and service delivery (Slemrod, 2019). Among the various forms of taxation, Value-Added Tax (VAT) is widely regarded as an efficient consumption tax that has been implemented by many countries globally, both developed and developing (Almarri, 2024). VAT stands as a tax system that collects charges based on value enhancements in every step from product manufacturing to consumer delivery until it reaches the final end-user. VAT compliance is critical because it accounts for a significant portion of tax revenues in many nations, and non-compliance can undermine fiscal stability (Gimba, 2018).

Globally, VAT is a significant source of revenue, contributing an average of 20-30% of total tax revenues in countries that implement it (Erero, 2021). However, VAT compliance rates vary widely across regions, influenced by factors such as enforcement mechanisms, taxpayer education, and the complexity of tax systems. The Organization for Economic Co-operation and Development (OECD) documents that countries from their member organizations demonstrate VAT compliance at an average rate of 85% in 2022. Countries like New Zealand and Singapore, which have streamlined VAT systems with simplified rates, boast compliance rates exceeding 90% (Hamilton, 2021).

Despite these successes, VAT gaps remain a persistent issue globally. The European Commission's 2021 report on VAT compliance revealed that the VAT gap in the European Union was €93 billion, representing 10% of total VAT liability (Braml & Felbermayr, 2022). This gap highlights challenges such as fraud, evasion and administrative inefficiencies. Developing countries face even more significant compliance challenges, with average VAT gaps exceeding 30%, as reported by the International Monetary Fund (IMF) (Gendron & Bird, 2020). This disparity underscores the need for tailored interventions to improve VAT compliance across different economic contexts.

In Africa, VAT compliance is a growing concern due to high levels of informality in the economy, weak enforcement mechanisms, and limited taxpayer education (Adekoya et al.,

2020). According to the African Tax Administration Forum (ATAF), the average VAT compliance rate across African countries is approximately 50-60%, significantly lower than the global average (Okunogbe & Santoro, 2022). The VAT gap in Africa is estimated to range between 30-60%, depending on the country.

South Africa is a notable exception, with a compliance rate of around 85%, driven by robust tax administration and technological innovations like e-filing (Subramoney, 2023). In contrast, countries like Nigeria and Ghana struggle with compliance rates below 50%, primarily due to challenges in enforcing VAT collection in informal sectors (Ampaabeng, 2019). The 2021 ATAF report emphasized that digitalizing tax systems and increasing awareness among taxpayers could substantially improve compliance rates across the continent.

Kenya's VAT compliance landscape reflects both progress and persistent challenges. For instance, VAT contributes approximately 28% of Kenya's total tax revenue, making it one of the most significant revenue streams for the Kenya Revenue Authority (KRA) (Njuguna, 2020). However, the VAT compliance gap remains substantial. According to a 2022 report by the Institute of Economic Affairs (IEA), Kenya's VAT compliance gap is estimated at 33%, resulting in a revenue shortfall of over KES 150 billion annually (Otieno, 2019). Juma et al. (2020), notes that VAT non-compliance presents significant challenges to the Kenya Revenue Authority (KRA) and the general economy at large. According to Wadesango and Chirebvu (2020), non-compliance can manifest in various forms, including underreporting sales, overstating VAT input claims, or failing to register for VAT. Non-compliance also leads to economic inefficiencies (Olushola et al., 2024). It distorts market fairness by creating an uneven playing field where non-compliant businesses gain an unfair advantage over those adhering to VAT regulations (Colangelo, 2023). This discourages honest taxpayers and potentially leads to reduced voluntary compliance rates. On top of that, a poor VAT compliance record can deter foreign investment, as investors are often cautious about jurisdictions perceived to have weak tax enforcement systems (Van Brederode, 2020). The cumulative effect of these inefficiencies includes reduced economic growth, heightened inequality, and weakened tax morale among citizens.

Besides economic impacts, VAT non-compliance erodes public trust in tax systems. When taxpayers perceive the system as unfair or poorly managed, they may become less willing to

comply voluntarily (Manganya, 2022). This creates a vicious cycle where reduced compliance undermines revenue collection, further straining the resources available for enforcement and public awareness initiatives (Schoeman, 2020). Strengthening VAT compliance is thus essential not only for increasing revenue but also for maintaining trust and fairness in the tax system.

VAT compliance refers to the extent to which taxpayers adhere to laws and regulations governing Value Added Tax (VAT) (Demessew, 2020). This involves timely and accurate filing of VAT returns, payment of VAT obligations, correct application of VAT rates, and maintaining proper documentation of transactions subject to VAT (Alshira'h, 2024). VAT gap is defined as the difference between the expected VAT revenue and the actual revenue collected and this remains a pressing issue (Nasaye, 2022). Ensuring compliance is critical for effective tax administration as it provides a fair mechanism for revenue collection and minimizes tax evasion.

Empirically, studies have been done on determinants of VAT compliance. However, such studies have not provided conclusive evidence on determinants of VAT compliance. Prior literature identifies several determinants influencing VAT compliance, which were adopted in this study to provide a comprehensive and evidence-based analysis (Ishaqi & Mastor, 2024). According to the study done by Taing and Chang (2021), these determinants include tax knowledge, compliance costs, tax rates, enforcement mechanisms, and the perceived fairness of the tax system. Each of these factors has been explored extensively to assess their individual and collective impact on VAT compliance.

Tax knowledge is a critical determinant, as understanding VAT laws and regulations significantly influences compliance (Musimenta, 2020). Studies by Lutomia (2021) indicate that taxpayers with adequate knowledge of VAT requirements are more likely to comply. The authors argue that ignorance of VAT obligations often leads to unintentional non-compliance, underscoring the need for taxpayer education.

Compliance costs have also been highlighted as a significant factor (Vishnuhadevi, 2021). High costs associated with VAT compliance, such as bookkeeping, filing returns, and seeking professional advice, often discourage businesses from adhering to regulations. Evidence from a study by Evans and Krever (2021) suggests that reducing these costs through simplification of procedures can enhance compliance rates. Tax Rates play a dual role, as they affect both

compliance and evasion (Miceli, 2020). While higher VAT rates generate more revenue, they also increase the incentive for evasion. A study by Slemrod (2019) found that compliance rates are inversely proportional to tax rates, with businesses more likely to underreport transactions when VAT rates are perceived as burdensome.

Enforcement mechanisms, including audits and penalties, are essential for ensuring compliance (Thottoli, 2021). Ewert and Wagenhofer (2019) observed that robust enforcement mechanisms deter deliberate non-compliance, as businesses weigh the risks of detection and punishment against potential gains from evasion. However, the effectiveness of enforcement depends on the perceived likelihood of audits and the severity of penalties. The level of belief that the tax system treats citizens fairly determines public compliance to tax requirements (Al-Rahamneh & Bidin, 2022). When taxpayers believe the tax system treats them justly and the authorities effectively handle public funds they demonstrate better compliance. Lestary et al. (2021) established in their research that tax morale increases through fair taxation systems which produces voluntary compliance.

Recent initiatives by KRA, such as the introduction of the iTax platform and the Electronic Tax Invoice Management System (eTIMS), have improved compliance by simplifying VAT processes and enhancing transparency (Irungu & Nekesa, 2024). For instance, the iTax system has increased the number of VAT-registered taxpayers by 25% since its launch in 2015. Despite these advancements, challenges persist, particularly in sectors with high cash transactions, such as retail and wholesale trade (Maixé-Altés, 2020). Addressing these issues requires a multifaceted approach, including targeted audits, taxpayer education campaigns, and leveraging technology to enhance compliance monitoring (Sikder & Rolfe, 2023).

The global, regional, and local trends highlight the critical role of VAT compliance in achieving fiscal sustainability (Mwangi, 2019). While developed countries demonstrate the potential for high compliance rates with streamlined systems and robust enforcement, Africa, and Kenya in particular, face structural challenges that impede progress (Mukindia, 2023). The significant VAT gaps and revenue losses underscore the urgency of addressing compliance issues (Olwala, 2020). Several factors contribute to this gap, including a large informal sector that accounts for

about 80% of the economy, limited enforcement capabilities, and complex VAT filing procedures (Yieke, 2023).

Research on the determinants of VAT compliance has yielded contradictory findings (Morrow et al., 2022). For instance, Munyao (2022) suggests that tax knowledge positively influences compliance. According to Bornman and Ramutumbu (2019), tax knowledge refers to an individual's understanding and awareness of tax laws, regulations, and compliance requirements. The study concludes that "tax knowledge has a significant and positive effect on tax compliance," emphasizing the importance of tax education in shaping knowledge and increasing compliance. Similarly, Al-Okaily (2024) identifies tax knowledge as one of the factor influencing Digital Taxation Information Systems usage, which in turn impacts tax compliance. However, contradictory evidence exists. Natariasari and Hariyani (2023) reports that "there is no connection between tax law comprehension and taxpayer compliance," suggesting that understanding tax laws may not directly translate to increased compliance. The controversy stems from contextual differences among studies, for example, in contexts with high trust in government, tax knowledge may foster compliance, while in low-trust settings, even well-informed taxpayers may evade taxes. This contradiction highlights the complexity of the relationship between tax knowledge and compliance behavior hence underscore the need for further research to better understand the nuanced relationship between tax knowledge and compliance, considering various contextual factors and potential mediating variables (Abdu & Adem, 2023; Hofmann et al., 2008).

Compliance costs refer to the expenses incurred by individuals or businesses to adhere to legal and regulatory requirements (Root, 2019). While certain studies propose an indirect effect of compliance costs on tax compliance through service quality, others argue that reducing these costs by enhancing taxpayer services can directly improve compliance. For instance, the study done by Sukesi and Yunaidah (2020) indicates that service quality acts as a complete mediator between compliance cost and taxpayer compliance. This suggests an indirect influence of compliance costs on tax compliance through their impact on service quality. However, this conclusion is challenged by alternative studies that emphasize other factors affecting tax compliance. For example, Kamara and Kamara (2024) introduces a "service paradigm" that views tax administration as a facilitator and service provider. This perspective suggests that

lowering compliance costs via taxpayer services can boost tax compliance. The research discovered that information provided by the agency positively affects both filing and reporting compliance, suggesting that simplifying tax calculations can improve adherence (Kamara & Kamara, 2024). This finding contrasts with (Sukesi & Yunaidah, 2020)'s results, which do not establish a direct connection between compliance costs and tax compliance. The controversy arises due to contextual differences in tax administration systems, conceptual variations in defining compliance costs, and methodological disparities in measuring tax compliance across the studies. These conflicting findings necessitates for additional research to resolve these discrepancies and offer more definitive evidence regarding the role of compliance costs in determining tax compliance.

Taxpayer perception refers to individuals' attitudes, beliefs, and opinions about the fairness, efficiency, and effectiveness of the tax system and its administration (Perveen & Ahmad, 2022). Further studies examining taxpayer perception and VAT compliance have yielded conflicting results. For instance, some entrepreneurs consider VAT funds as their own, while others view them as government revenue, potentially affecting compliance behaviors (Adams & Webley, 2001). The study underscores the significance of psychological elements in tax adherence, including mental accounting and fairness perceptions (Adams & Webley, 2001). Notably, (Onu & Oats, 2015) examined online discussions among taxpayers, uncovering a spectrum of interactions ranging from information-seeking to persuasion attempts. These social influences can significantly affect compliance behavior, indicating that tax authorities should consider the impact of peer-to-peer communication in their compliance strategies. The controversy stems from contextual differences, as variations in cultural norms, societal attitudes, and the level of trust in tax authorities across regions influence how taxpayer perception impacts VAT compliance.

Technological change refers to the process of innovation, adoption, and advancement in technology that improves efficiency, effectiveness, and productivity in systems, processes, or tools (Blichfeldt & Faullant, 2021). Research indicates that technological change can have both positive and negative effects on VAT compliance. The studies done such as that of Hesami et al. (2024) demonstrate the benefits of technological advancements. For example, the adoption of electronic invoicing resulted in a more than 5% increase in reported firm sales, purchases, and

VAT liabilities within the first year (Bellon et al., 2022). Similarly, the shift from business tax to VAT has been shown to encourage digital transformation among companies, potentially enhancing compliance (Chen et al., 2022). However, other research highlights potential drawbacks. A study on Finland's VAT exemption threshold revealed that compliance costs, including frequent VAT report filing and understanding the VAT system, had a greater impact on sales responses than the actual VAT rate (Harju et al., 2019). This finding suggests that technological changes may not always improve compliance if they increase complexity. Furthermore, research by Li et al., (2020), found that stricter VAT enforcement led to a significant rise in payroll tax evasion, indicating that improved compliance in one area might result in evasion in another. The controversy arises due to conceptual differences, as studies vary in how they define and measure the role of technological changes in influencing VAT compliance and related behaviors. Additionally, further research is needed to understand the influence of technology on VAT compliance as suggested by research done by (Kimani, 2024).

A study of 125,000 firms across 140 countries found that tax enforcement and compliance increase with firm size (Bachas et al., 2019). This is supported by research on U.S. firms, which found a positive relation between effective tax rates and firm size, suggesting larger firms face higher "political costs" (Zimmerman, 2020). However, contradictory evidence exists in emerging economies. A study of Pacific-Basin emerging economies found a negative relation between firm size and compliance rates, contrary to U.S. findings (Kim & Limpaphayom, 2008).

While much of the existing literature on VAT compliance has focused on established businesses and SMEs, startups operate under unique circumstances that influence their ability to comply with VAT regulations. Startups, particularly in developing economies like Kenya, typically face significant resource constraints, including limited financial, administrative, and technological capacity (Hanifzadeh et al., 2024). These constraints may affect their ability to meet VAT compliance requirements, such as timely tax filing, maintaining proper records, and accurately calculating VAT liabilities. Firm size has been identified as a factor influencing tax compliance, with larger firms generally demonstrating higher compliance levels due to better organizational capacity, financial resources, and access to tax advisory services (Joshi et al., 2021). Conversely, smaller firms, particularly startups, often struggle with compliance due to high proportional compliance costs, a lack of tax knowledge, and weaker enforcement oversight (Bachas et al.,

2019). As such, the relationship between VAT compliance determinants (such as tax knowledge, compliance costs, perceived fairness, and technological changes) may vary depending on startup size.

Given these variations, this study introduces startup size as a moderating variable to examine its influence on the relationship between VAT compliance determinants and overall compliance levels. It is expected that larger startups, with more structured financial and managerial capacities, will exhibit higher compliance rates than smaller ones with limited resources (Dalu et al., 2023). By incorporating startup size as a moderating factor, this study seeks to provide a more nuanced understanding of VAT compliance among startups in Kenya, thereby offering insights into tailored policy interventions that can enhance compliance rates within the startup ecosystem. Therefore, this study aimed at investigating the determinants of VAT compliance among startups in Kenya and the moderating role of the startup size.

1.1.1 Startups in Nairobi County

Startups are innovative ventures designed to address societal and commercial challenges by creating scalable business models, often leveraging technology to deliver unique solutions (Acquier et al., 2019). These businesses are generally less than ten years old and aim to expand beyond their initial owner-operated framework (Hanifzadeh et al., 2024). In Kenya, startups play a critical role in economic development, contributing to job creation, fostering innovation, and addressing pressing community needs through tailored products and services.

According to a report on Understanding the Kenyan Startups ecosystem in Kenya, there are more than 1000 startups registered in Kenya, where 85% were noted to have sprouted in Nairobi, whereas a report by Disrupt Africa on Global Startup Ecosystem Index indicated that there were 308 active startups in Kenya as at the end of year 2022 comprising of Fintechs, Agri-techs, E-commerce, Mobility, Energy, Ed-tech, Logistics, Marketing, E-health, Recruitment and HR and others.

Nairobi County, often referred to as the "Silicon Savannah," is recognized as the hub of Kenya's startup ecosystem (Ogachi & Zoltan, 2023). Recent developments have seen a surge in startups leveraging digital technologies in sectors such as fintech, health tech, and agritech. Initiatives such as incubation programs at the iHub and Startup Bill 2022 have further facilitated the growth

and formalization of startups within the county. Despite these advancements, many startups in Nairobi face unique challenges, such as limited access to financing, inadequate infrastructure, and difficulty navigating regulatory frameworks such as VAT compliance (Mumo, 2019).

According to the study done by Blake (2022), startups provide a distinctive setting for investigating VAT compliance due to their inherent differences from established businesses and SMEs. They often operate with constrained financial and human resources, making compliance with complex tax systems more challenging. Moreover, many startups in Nairobi County are tech-driven, which could influence their ability to adopt digital tax systems like iTax and eTIMs (Wang & Kesan, 2022). The innovative nature of startups and their frequent interactions with rapidly changing technologies make them a critical segment for understanding how VAT compliance factors, such as tax knowledge, technology adoption, and regulatory costs, impact emerging businesses (Karim, 2024).

Despite the significant growth of startups in Nairobi, VAT compliance remains a considerable challenge. Studies indicate that a large number of startups either fail to register for VAT or struggle with timely and accurate tax filing. Recent statistics show that about 60% of startups with annual turnover below the KSh 5 million threshold do not voluntarily register for VAT, while 30% of startups with turnover exceeding this threshold are often late in their VAT submissions or fail to meet the full tax obligations (KRA, 2023). This non-compliance is largely attributed to limited knowledge of tax regulations, lack of adequate bookkeeping practices, and the complexities of navigating the VAT system. Furthermore, many startups, particularly those in the tech sector, face barriers in integrating digital tax systems, leading to delays in VAT filings and occasional penalties. Addressing these compliance gaps is essential for improving revenue collection and supporting the continued growth of Nairobi's startup ecosystem.

This study focused on startups in Nairobi County by examining determinants of VAT compliance within this context to provide insights that can inform tailored government policies and support mechanisms, ensuring the sustainable growth of startups while improving tax adherence.

1.2 Statement of the Problem

Value-Added Tax (VAT) is a critical source of government revenue, but VAT compliance remains a challenge, particularly among startups in Kenya. The national VAT compliance rate stands at 59%, well below the target of 65% (KRA, 2024). While VAT non-compliance is a general issue affecting many businesses, startups face unique barriers that may exacerbate this challenge. According to the Kenya Revenue Authority (KRA), startups are often not VAT registered because many have annual turnovers below the KSh 5 million VAT registration threshold, which exempts them from compulsory registration. However, a significant number of startups that exceed the threshold still struggle with timely VAT registration and filing, contributing to overall compliance issues.

Recent studies indicate that many startups, particularly in rural and smaller regions, face challenges with VAT compliance, though the reasons may vary. While mobile technology and digital tax systems such as iTax and eTIMS are increasingly accessible, some startups still struggle to fully integrate these systems. This issue may be more related to inadequate taxpayer education, insufficient training, and a lack of understanding of the VAT compliance process, especially among small or rural startups (Mponwana & Ndlovu, 2024; Tairo, 2023). Moreover, certain technology-driven sectors like fintech and agritech encounter additional challenges in adapting digital tax tools, which can delay VAT filing or cause non-compliance (Wang & Kesan, 2022). Further complicating VAT compliance is the issue of turnover. Many startups, particularly those in rural areas, fall below the VAT registration threshold of KSh 5 million annually. This lower turnover may contribute to a voluntary decision to not register for VAT, as these startups perceive no immediate obligation to do so. Thus, while access to digital tax systems is often not the main issue, the failure to reach the VAT threshold or the lack of proper registration remains a major challenge for many smaller startups. The inadequacy of VAT revenue, particularly from startups, is a growing concern for the Kenyan tax administration system. This non-compliance not only reduces government revenue but also undermines the sustainability of the tax system. Understanding the factors that influence VAT compliance in startups, particularly regarding tax knowledge, costs, and perceptions, is crucial for developing effective solutions**.**

The issue of VAT non-compliance among startups is particularly concerning as startups play a crucial role in Kenya's economic development, contributing to job creation, innovation, and the diversification of services across sectors like fintech, e-commerce, and agritech. Understanding VAT compliance within the startup ecosystem requires examining sector-specific challenges rather than general non-compliance trends, as different sectors may experience unique issues when it comes to registration, knowledge, and access to resources.

Empirical studies on VAT compliance determinants in Kenya and other developing economies reveal inconsistent results. Some studies show that tax knowledge and understanding of VAT regulations improve compliance (Mukhlis et al., 2015), while others argue that comprehension of tax laws does not directly affect compliance (Natariasari & Hariyani, 2023). The role of taxpayer perception and external influences such as social networks also remain unclear (Adams & Webley, 2001; Onu & Oats, 2015). There is also limited research focusing on how startup size and sector influence VAT compliance behavior, which remains underexplored.

This study seeks to address these gaps by focusing specifically on VAT compliance among startups in Kenya, introducing startup size as a moderating variable to examine how different startup sizes (based on turnover and sector) affect VAT compliance behavior. The findings aim to offer targeted policy recommendations that can improve VAT compliance for startups, considering their unique needs, challenges, and sector-specific issues. By focusing on startups, this study will contribute to a more tailored understanding of VAT compliance in the Kenyan context, ensuring that VAT policies are relevant and effective for emerging businesses.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study was to assess determinants of value-added tax compliance and the moderating role of startup size in Kenya.

1.3.2 Specific Objectives

1. To determine the influence of Tax Knowledge on VAT compliance among startups in Kenya.
2. To establish the influence of compliance costs on VAT compliance among startups in Kenya.
3. To assess the influence of taxpayer perception on VAT compliance among startups in Kenya.

4. To establish the impact of technological changes on VAT compliance among startups in Kenya.
5. To establish the moderating effect of startup size on the determinants of VAT compliance among startups in Kenya.

1.4 Research Question

1. How does tax knowledge influence VAT compliance among startups in Kenya?
2. What is the influence of compliance costs on VAT compliance among startups in Kenya?
3. What is the influence of taxpayer perception on VAT compliance among startups in Kenya?
4. What impact does technological changes has on VAT compliance among startups in Kenya?
5. Does startup size have a moderating effect on the determinants of VAT compliance among startups in Kenya?

1.5 Scope of the Study

The study focused on assessing determinants of value added tax compliance and the moderating role of startup size in Kenya. The independent variables were Tax Knowledge, compliance costs**,** taxpayer perception and technological changes**,** the dependent variable was value added tax compliance while the moderating variable was the startup size. According to a report on Understanding the Kenyan Startups ecosystem in Kenya, 85% were noted to have sprouted in Nairobi, comprising of Fintechs, Agri-techs, E-commerce, Mobility, Energy, Ed-tech, Logistics, Marketing, E-health, Recruitment and HR, therefore the study was carried out in Nairobi County between the months of March and April 2025 to enhance the response rate. The target population for this study was 308 startups in Nairobi County, with a sample size of 174 determined through stratified random sampling.

1.6 Significance of the Study

This study aims to bridge existing knowledge gaps related to VAT compliance among startups in Kenya, providing valuable insights for various stakeholders. The findings will be crucial in addressing the challenges faced by startups, particularly in rural areas, and inform the development of targeted interventions that enhance compliance.

1.6.1 Policymakers and Regulators

Policymakers can use the study's findings to design evidence-based regulations that effectively address VAT compliance issues among startups. By focusing on the identified barriers such as low tax knowledge, high compliance costs, and technological integration challenges, this research will enable the development of tailored legislation that reduces the compliance burden on startups while promoting tax adherence. The Kenya Revenue Authority (KRA) can utilize the results to craft targeted initiatives aimed at improving VAT compliance. Understanding the specific determinants of compliance will allow KRA to allocate resources efficiently, focusing on areas requiring more enforcement or taxpayer education. Additionally, the study's insights into the role of startup size in VAT compliance will enable KRA to develop more nuanced policies and communication strategies to improve compliance rates.

1.6.2 Practitioners

Startups, particularly those in rural and underserved regions, will benefit from the study by gaining a deeper understanding of the factors influencing their VAT compliance. By identifying key challenges such as poor turnover and lack of awareness about VAT registration thresholds, startups can make more informed decisions about their tax obligations, reducing the risk of penalties and improving financial management. The study will also highlight areas where startups need additional support or training, particularly in digital tax systems. Furthermore, financial institutions like banks and investors will find value in the findings, as they can assess the financial health of startups based on their VAT compliance. These insights could influence the development of customized financial products for compliant startups and shape investment decisions, with compliance being considered a key factor in evaluating startup risk.

1.6.3 Researchers and Academicians

The study will contribute significantly to the academic discourse on VAT compliance in developing economies, particularly with regard to startups. It fills existing knowledge gaps by providing empirical evidence on how startup size moderates VAT compliance, an area that has been underexplored. The research will also contribute to understanding the role of technology and taxpayer education in improving compliance, a critical factor in emerging markets like

Kenya. This study will serve as a foundation for future research on related topics such as the impact of technology on tax compliance, the effectiveness of tax education programs, and comparative studies of VAT compliance across different countries. Academicians in fields like economics, public policy, and business studies will find this research valuable for teaching and further academic inquiries.

1.7 Chapter Summary

The research examined the determinants influencing Value Added Tax (VAT) compliance for Kenyan startups with emphasis on startup dimensions as moderator variables. Startups must adhere to VAT requirements because they help both tax administration efficiency and national development, yet it remains a challenge in Kenya, with a VAT compliance gap of approximately 33%, resulting in significant revenue losses. The independent variables were Tax Knowledge, compliance costs**,** taxpayer perception and technological changes**,** the dependent variable was value added tax compliance while the moderating variable was the startup size. The study was set in the context of Nairobi County, a hub for startups in the country. The research findings will be of significance to policymakers, regulators, practitioners, researchers and academicians.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter reviews the existing literature on the topic, which primarily includes secondary sources and both current and previous studies that are empirically analyzed for each of the variables. It also presents a theoretical framework to guide the research. The gaps in the literature are then highlighted, followed by a summary of the review.

2.2 Theoretical Foundation

The theories that guided this study were Fiscal Exchange Theory, Economic Deterrence Theory and the Taxable Capacity Theory. These theories have been discussed in lengthy below as well as how they are related to the study. Multiple theories were used to inform the study to provide a more comprehensive framework that better explains the variables than using a single theory.

2.2.1 Fiscal Exchange Theory

Fiscal exchange theory was developed by Margaret Levi in 1988. Levi proposed that tax compliance is a reciprocal relationship between taxpayers and governments, rooted in the idea of a fiscal contract (Ogunfunmilayo, 2020). The theory posits that taxpayers comply with tax obligations when they perceive a fair exchange, where the government delivers public goods and services in return for the taxes collected (Robbins & Kiser, 2020). Levi argued that tax compliance is voluntary when citizens view the government as legitimate, trustworthy, and efficient in its utilization of public resources. Essentially, compliance is seen as a form of social contract in which citizens fulfill their obligations because they see tangible benefits from their contributions. When taxpayers perceive inefficiency, corruption, or inequity in the use of tax revenues, they are more likely to evade taxes (Ozili, 2020).

Fiscal Exchange Theory posits that taxpayers are more likely to comply with tax obligations when they perceive a direct correlation between the taxes they pay and the public goods and services they receive from the government. This theory is particularly relevant for startups in Kenya, which heavily depend on government services such as infrastructure and technology platforms. Understanding tax laws and obligations is crucial for compliance. Startups with better tax knowledge are likely to perceive tax payments as a means to access essential services like the

iTax system, which simplifies tax processes. Increased awareness about how taxes fund public goods can enhance compliance behavior among startups. The costs associated with tax compliance, including time and financial resources, can deter startups from fulfilling their VAT obligations. If startups perceive these costs as excessive relative to the benefits received from government services, their willingness to comply may diminish. Conversely, if they recognize that taxes contribute to improving infrastructure and reducing operational costs, compliance may increase.

This variable encompasses how startups view the fairness and efficiency of the tax system. Positive perceptions, reinforced by visible government investment in public goods (like business hubs and streamlined registration processes), can enhance compliance. When startups believe that their taxes are effectively utilized, they are more inclined to fulfill their tax obligations voluntarily. Innovations such as the iTax system play a significant role in facilitating VAT compliance among startups. When technology simplifies tax filing and payment processes, it reduces the burden on businesses, thereby enhancing their perception of government efficiency. This positive experience can lead to increased compliance as startups recognize the value derived from their tax contributions. The size of a startup can influence its capacity to manage compliance costs and adapt to technological changes. Smaller startups may face greater challenges in understanding tax obligations and incurring compliance costs compared to larger firms. However, if they perceive that their taxes fund valuable public goods, their compliance behavior may improve despite these challenges.

According to Mutinda (2022) startups, as small and growing businesses, rely heavily on public goods such as infrastructure, education systems, and technology platforms for their operations. For instance, Kenya's iTax system, which simplifies tax filing and payments, is an example of how perceived government efficiency can foster compliance (Okuku, 2022). When startups recognize that taxes contribute to initiatives like business hubs, streamlined business registration processes, and supportive infrastructure, they are more likely to comply voluntarily.

Fiscal exchange theory assumes that taxpayers are fully aware of how their taxes are used, which may not be true for many startups operating in semi-formal or informal sectors (Rolph, 2023). The theory also overlooks the complexity of human behavior; even when public goods are

delivered efficiently, some taxpayers may still evade taxes due to economic hardships or mistrust of the government. Furthermore, in contexts like Kenya, systemic corruption and lack of transparency can weaken the perceived fiscal exchange, reducing the effectiveness of this theory in explaining non-compliance.

The theory has shortcomings including the fact that it presumes that governments are accountable and efficient, which is often not the case in developing economies (Bassey et al., 2022). For instance, startups may comply with VAT regulations initially but become disillusioned if they perceive persistent misuse of tax revenues.

Fiscal Exchange Theory posits that taxpayers are more likely to comply with tax obligations when they perceive a fair exchange between the taxes they pay and the public goods and services they receive. For startups in Kenya, this theory suggests that startups' tax knowledge can influence their perception of the fairness of the fiscal system. If startups understand that their taxes contribute to the creation of infrastructure, technology platforms, and business hubs, they may be more likely to comply with VAT regulations. Similarly, compliance costs are directly impacted by startups' perception of the value they receive from government services. If startups believe their taxes help improve public goods that directly benefit their business (like the iTax system), they may be more willing to bear the compliance costs.

This theory also highlights the role of taxpayer perception, which is critical in shaping the willingness of startups to comply. Startups that view the government's use of tax revenues as fair and efficient are more likely to comply with VAT regulations, as they see a tangible benefit to their contributions. Lastly, technological changes like the introduction of iTax or eTIMS can play a crucial role in shaping perceptions, as these systems simplify the tax process, reducing the burden and enhancing the startup's view of government efficiency.

By understanding these dynamics, startup size also plays a role, as smaller startups may perceive fewer benefits from tax payments due to the relatively limited resources they receive. The theory suggests that increasing perceived value through visible public goods can reduce resistance to compliance, particularly for small startups.

2.2.2 Economic Deterrence Theory

Economic deterrence theory was introduced by Michael Allingham and Agnar Sandmo in 1972 (Alem & Tewabe, 2022). The economic deterrence theory posits that tax compliance is influenced by a cost-benefit analysis. Taxpayers weigh the potential benefits of evasion against the likelihood of detection and the severity of penalties if caught (Hufff, 2022). The theory emphasizes that higher enforcement levels, stricter penalties, and increased probability of detection reduce the incentive to evade taxes (Ritei, 2021). Compliance, therefore, is driven by fear of punishment rather than voluntary willingness.

This theory views tax compliance as an economic decision rather than a moral or ethical one (Hartmann et al., 2020). It suggests that governments can enhance compliance by investing in enforcement mechanisms, such as audits, fines, and technological tools that improve the detection of non-compliance (Bello & Kasztelnik, 2022).

This theory aligns with compliance costs and technological changes, as robust enforcement mechanisms and digital tools reduce opportunities for evasion. In Kenya, initiatives like the Electronic Tax Invoice Management System (eTIMS) and iTax have enhanced compliance by simplifying reporting and increasing the likelihood of detection (Njoroge, 2019). For startups, the high cost of compliance, including implementing these technologies, can be a deterrent. The theory underscores the need for cost-effective solutions tailored to startups to balance deterrence with accessibility.

Startups, particularly in their early stages, often operate on tight budgets and cannot afford the financial and reputational costs of non-compliance. The theory suggests that the government's enforcement strategies, such as frequent audits and strict fines, are crucial in shaping compliance behavior. Kerubo (2020) observed that startups in Kisumu County reported higher compliance rates when they perceived an increased risk of detection.

This theory explains the role of tax authorities in signaling their capacity to enforce compliance. The more visible and credible the enforcement measures, the higher the compliance rates among startups (Mumo, 2019). For instance, startups that believe the Kenya Revenue Authority (KRA) actively monitors transactions are less likely to evade taxes, even if compliance costs are high.

Economic deterrence theory has several limitations. It focuses primarily on enforcement and penalties, neglecting the role of intrinsic motivations, such as moral obligations or trust in government (Raskolnikov, 2019). Over-reliance on deterrence measures may lead to negative outcomes, such as fostering resentment among taxpayers or pushing startups into the informal economy.

Economic deterrence theory assumes that taxpayers are rational actors who calculate the costs and benefits of compliance (Bruno, 2019). It presupposes that tax authorities have the capacity and resources to enforce compliance effectively, which may not always be the case in developing economies. Another assumption is that penalties and enforcement measures are consistent and credible, which is often undermined by corruption or inefficiencies in tax administration systems (Abuamria, 2019).

Economic Deterrence Theory (EDT) provides a framework for understanding taxpayer behavior, particularly in the context of Value Added Tax (VAT) compliance among startups in Kenya. This theory posits that the likelihood of compliance is influenced by the perceived risks and penalties associated with non-compliance. Tax Knowledge plays a crucial role in enhancing VAT compliance among startups. According to research, a significant relationship exists between the tax knowledge of business owners and their compliance levels. Startups with higher tax knowledge are better equipped to navigate the complexities of VAT regulations, leading to increased compliance rates. This aligns with EDT, as informed taxpayers are more likely to weigh the risks of non-compliance against the benefits of adhering to tax laws, thus reducing the likelihood of evasion.

Compliance Costs are another critical factor impacting VAT compliance. High costs associated with tax compliance can deter startups from fulfilling their VAT obligations. EDT suggests that when the costs of compliance exceed the perceived benefits, businesses may choose to evade taxes. In Kenya, studies indicate that smaller firms often face disproportionately high compliance costs relative to their size, which can lead to lower compliance rates. Therefore, reducing these costs could enhance compliance by altering the cost-benefit analysis faced by startups.

Economic Deterrence Theory suggests that taxpayers' compliance is driven by the fear of penalties and the likelihood of detection. The theory emphasizes that strict enforcement,

penalties, and digital tools that increase detection can reduce the incentive to evade taxes. This aligns with compliance costs, as the higher the perceived costs of evasion (such as penalties and audits), the more likely startups are to comply. The availability of digital tax tools, like iTax and eTIMS, which improve the likelihood of detection, can influence technological changes by making it easier for startups to comply with VAT requirements.

Tax knowledge also plays a significant role in this theory. Startups with higher levels of tax knowledge are less likely to evade taxes because they understand the penalties and risks of non-compliance. This aligns with the deterrence mechanism — informed startups are more likely to adhere to the tax laws, reducing their risk exposure.

This theory also emphasizes the moderating role of startup size, as smaller startups, particularly those with limited resources, might view the risks of penalties as more significant compared to larger firms. Startups with fewer resources may fear the financial impact of enforcement and thus be more inclined to comply to avoid penalties, highlighting the need for cost-effective compliance solutions for smaller startups.

2.2.3 Taxable Capacity Theory

The Taxable Capacity Theory was first developed in the early 20th century by the British economist Sir Josiah Stamp in 1929. This theory was expanded upon by various economists throughout the 20th century, including Richard Musgrave (1959), who further explored its implications for public finance and taxation systems. The main concept of the Taxable Capacity Theory is that a country's tax base (the taxable capacity) is determined by its level of economic development, the efficiency of its tax system, and the willingness of the population to comply with tax laws. It highlights the potential amount of revenue a government can collect through taxation without negatively impacting economic activity or overburdening taxpayers. The theory suggests that a country’s tax capacity is influenced by factors such as economic growth, income distribution, and government policy.

The assumptions underlying the Taxable Capacity Theory include a nation's ability to collect taxes depends on its level of economic development, including its industrial base and infrastructure. The theory assumes that citizens are willing to comply with tax obligations, influenced by their trust in government and fairness perceptions. The government’s capacity to

efficiently collect taxes is a significant determinant of taxable capacity. This assumes that tax collection mechanisms and institutions function effectively. The structure of the tax system—such as the diversity of taxes, tax rates, and simplicity—affects how much tax can be levied on the population.

The theory assumes that the economic structure and the tax base are relatively fixed, which may not always be the case in rapidly changing economies or those with informal sectors. The theory does not fully account for external factors, such as international trade or foreign aid, which can also affect the capacity to raise taxes. Critics argue that the Taxable Capacity Theory oversimplifies the complex nature of taxation and ignores factors like corruption and tax evasion, which can limit a country's ability to collect taxes effectively. The theory focuses more on economic factors and less on social factors, such as political instability or public trust in government, which can significantly impact taxable capacity.

The Taxable Capacity Theory is relevant to understanding VAT compliance in Kenya, particularly when considering the moderating role of startup size. According to the theory, a country's tax base and capacity to generate revenue from VAT depend on the overall level of economic development and the efficiency of tax systems. VAT compliance is influenced by the economic structures of businesses, including startups. For instance, larger firms with better access to resources and infrastructure are more likely to comply with VAT regulations than smaller startups, especially those in rural areas. Therefore, the size of startups could be a significant moderating factor, as smaller startups often struggle to comply due to limited knowledge of tax laws, technological barriers (such as lack of access to digital tax systems), and high compliance costs.

According to the Taxable Capacity Theory, the capacity of a government to collect taxes also depends on the ability of smaller businesses to comply with VAT regulations. Since small businesses contribute less to the formal tax base, VAT compliance among startups may be limited by their inability to fully integrate into the formal economy and meet the demands of tax systems. The moderating role of startup size in this theory is therefore critical in determining how compliance can be improved, as smaller startups face more challenges than larger firms, which can influence Kenya's overall VAT compliance rate.

The Taxable Capacity Theory posits that a country's tax base and the government's ability to generate revenue depend on its economic development, tax system efficiency, and citizens' willingness to comply. In the case of startups in Kenya, tax knowledge is critical in increasing compliance. If startups understand how their compliance contributes to the overall tax base and national development, they are more likely to pay taxes, which strengthens the government's taxable capacity. Startups that understand the link between taxes and public goods, such as infrastructure and support systems, are more willing to comply, increasing the tax base.

This theory also highlights compliance costs and how they influence the tax capacity of smaller businesses. Smaller startups often struggle to bear the high costs of compliance due to limited resources, and this could constrain their ability to comply with VAT regulations. Technological changes like the implementation of digital tax tools (iTax, eTIMS) can lower the compliance costs for startups by simplifying reporting and payment processes, helping to increase their capacity to comply.

Finally, taxpayer perception plays a central role in this theory. When startups believe the tax system is fair and that their contributions help build necessary public infrastructure, they are more likely to comply. The startup size moderates the impact of this theory, as smaller startups face more significant barriers in accessing resources to comply, which can affect the overall compliance rate.

The relationship between the variables in the conceptual framework is supported by several theories. Fiscal Exchange Theory underpins the connection between tax knowledge, taxpayer perception, and VAT compliance, highlighting that startups are more likely to comply when they perceive taxes as a fair exchange for public goods and services. Economic Deterrence Theory explains how compliance costs and technological changes influence VAT compliance, suggesting that high compliance costs deter startups from fulfilling their VAT obligations, while digital tools and enhanced enforcement increase the likelihood of compliance. Lastly, the moderating effect of startup size is critical, as larger businesses are generally better positioned to handle the resources and complexities associated with VAT compliance.

2.3 Empirical Literature Review

This section contains a systematic analysis of previously published empirical studies relating to the research study variables. The main goal of this section is to examine the body of research and identifying any gaps in knowledge relating to variables under study thus highlighting the current study's interest and breadth.

2.3.1 Tax Knowledge on Value Added Tax Compliance among Startups

This section compares and contrasts past studies on tax knowledge and its impact on VAT compliance among startups, highlighting key findings, methodologies, and gaps in existing research. By addressing these gaps, we aim to shed light on how tax knowledge influences VAT compliance in Kenyan startups specifically.

Lavic (2023) emphasizes that startups must be well-versed in compliance protocols to ensure they meet their tax obligations. This study underscores the critical role of understanding tax laws, especially given the complex nature of VAT filing and reporting. However, Lavic's study is based on a theoretical framework and does not consider practical industry-specific challenges. As such, it lacks insights into how Kenyan startups, operating in a less developed tax system, cope with these challenges. This gap presents a need for more research focusing on the practical implications of tax knowledge on VAT compliance in Kenyan startups.

Similarly, Paco and Quezon (2022) argue that tax knowledge is essential for the success of startups, with better knowledge correlating with higher compliance rates. They conducted a survey of 200 startups in Southeast Asia, finding that startups with better tax understanding were more likely to comply with VAT requirements. However, their study overlooks the unique context of developing economies like Kenya, where access to tax knowledge may be limited, and the tax system is more complex. This presents an opportunity for research focusing specifically on how tax knowledge affects VAT compliance in Kenyan startups, particularly in resource-constrained settings.

Omar (2020) investigates VAT non-compliance in the UK, where non-compliance mainly stems from errors rather than intentional evasion. The study found that misunderstanding tax regulations was a key contributor to non-compliance. However, the UK context is very different from Kenya, as tax enforcement and resources for startups are much stronger. The study’s

findings may not be directly applicable to Kenyan startups, where the tax system may be more complex, and access to tax education is more limited. This highlights a significant gap in understanding how tax knowledge impacts VAT compliance in developing countries.

In contrast, Castañeda (2021) looks at differentiated taxation and its role in non-compliance among startups in Latin America. His mixed-methods approach with 150 startups showed that varying taxation rules, based on income levels or taxpayer characteristics, contributed to non-compliance. While this study highlights the complexity of tax laws, it does not address VAT compliance specifically, nor does it explore how the Kenyan tax system, which is different in its administrative processes, affects startup compliance. This presents a gap in how differential taxation impacts VAT compliance in Kenyan startups, where the application of tax laws is often ambiguous.

Lin and Slemrod (2024) examined the relationship between knowledge demands and evasion opportunities, showing that the correlation between tax knowledge and reduced evasion is not always consistent. Their study in the US revealed that while more knowledge could reduce the likelihood of evasion, opportunities for evasion might still influence non-compliance. While useful, this research does not focus on how tax knowledge directly impacts VAT compliance among startups in Kenya, where tax evasion opportunities might differ significantly due to the informal nature of many startups.

Susskind and Susskind (2022) note that startups often consult tax professionals to address knowledge gaps, but still manage much of the tax process themselves. Their study found that the cost of acquiring tax knowledge, including time spent on education, record-keeping, and filing, can be substantial. However, they do not explore how startups in Kenya, particularly those with limited resources, can overcome these barriers. This gap points to the need for understanding how financial constraints impact the ability of Kenyan startups to acquire necessary tax knowledge and remain compliant with VAT laws.

Omondi and Theuri (2019) discuss how compliance costs remain high for startups despite efforts to simplify tax laws. Their survey of 100 Kenyan startups revealed that even though tax laws were simplified, compliance costs, especially in terms of hiring professionals and maintaining records, remained a significant barrier. While their study highlights the relationship between tax

knowledge and compliance costs, it fails to explore the sector-specific challenges that startups in Kenya face when it comes to VAT compliance. This gap presents an opportunity for research to examine how different sectors handle VAT compliance and tax knowledge challenges in Kenya.

Klapper and Lusardi (2020) found that individuals with higher education levels are more likely to support fiscal policies and comply with taxes. McPherson and Schapiro (2021) demonstrated that both perceived and actual knowledge of taxation positively influenced compliance rates. However, there is a lack of research on how industry-specific knowledge affects VAT compliance among startups, particularly in Kenya. The gap in this area needs further exploration to determine if tailored tax education for different sectors can improve compliance rates.

In a study conducted in China, Taing and Chang (2021) found that education positively affected tax compliance, with tax-specific knowledge having a stronger impact on compliance than general knowledge. However, this study did not address how varying levels of tax education impact startups in different industries or sizes. This highlights the need for more research on how specific tax knowledge influences VAT compliance among startups in Kenya, especially considering the diverse sectors in which these startups operate.

Monageng (2020) compared pre- and post-tests of Norwegian students in tax law and marketing courses and found that specific tax knowledge led to more favorable tax attitudes and greater seriousness about evasion. However, this study does not adequately address how targeted tax education programs can improve VAT compliance in Kenyan startups, suggesting a gap in understanding the effectiveness of such educational interventions in the Kenyan context.

Lastly, De Haas et al. (2022) emphasize that tax-specific knowledge is essential for enabling startups to comply with tax laws. The study showed that employees perceive taxes differently from startup owners because of the out-of-pocket nature of startup tax payments. This financial burden is seen as a loss, making it harder for startups to comply. While the study highlights the conceptual gap in how financial perceptions influence tax compliance, there is still limited research on how these perceptions specifically shape VAT compliance behavior in Kenyan startups.

From the studies reviewed, several gaps emerge in understanding the role of tax knowledge in VAT compliance among startups. Most studies are based in developed economies, where tax systems are more robust, and resources for startups are more readily available. The differences in the tax landscape between these economies and Kenya present a clear gap in research regarding the unique challenges Kenyan startups face in acquiring tax knowledge and meeting VAT compliance requirements. While several studies touch on the importance of tax knowledge, there is limited research exploring how industry-specific knowledge impacts VAT compliance. Tailored tax education based on the startup's sector could be a key area to explore. Many studies highlight the financial burden of compliance but fail to examine how financial perceptions of tax compliance affect the willingness of startups to comply, particularly in resource-constrained environments like Kenya. Although some studies suggest that startups address knowledge gaps by consulting tax professionals, there is little research on practical strategies that startups can use to overcome the challenges of tax complexity and high compliance costs.

To address these gaps, Fiscal Exchange Theory and Economic Deterrence Theory provide useful theoretical frameworks. Fiscal Exchange Theory explains that startups are more likely to comply when they understand the value of their tax contributions. Economic Deterrence Theory highlights the role of compliance costs and enforcement in influencing VAT compliance, which can be mitigated by simplifying tax procedures and providing more accessible tax education.

2.3.2 Influence of Compliance Costs on Value Added Tax Compliance

Unlike most employees in many countries who receive net salaries with taxes automatically deducted at source, startups typically have to self-assess and report their income, paying taxes directly out of their own pockets. Campbell (2023) discusses the burden that compliance costs place on startups, noting that unlike employees who have taxes automatically deducted, startups must self-assess their taxes and pay them directly. This is particularly challenging for startups that must navigate multiple taxes, such as corporate, property, payroll, and VAT. The study argues that the complexity and variety of taxes increase the administrative burden on startups, making compliance costly. However, Campbell’s study focuses on general compliance costs without addressing how specific VAT-related costs affect compliance accuracy and reporting, which is a gap in the literature.

Nyombi (2022) expands on Campbell's arguments by highlighting that startups are also responsible for collecting sales taxes, such as VAT, and withholding personal income taxes if they have employees. The study found that the overall cost of managing these various tax obligations significantly impacts the financial resources available to startups, particularly early-stage businesses. Nyombi's research does not, however, provide a detailed exploration of how these costs directly affect the accuracy and timeliness of VAT reporting, leaving a significant gap in understanding how compliance costs influence voluntary compliance in Kenya's startup ecosystem.

Venâncio & Jorge (2022) offer an interesting perspective on tax behavior, highlighting that startups face a combination of psychological and financial factors that affect their tax compliance decisions. The study argues that three key factors—opportunity for non-compliance, the knowledge required to navigate tax rules, and how taxes are framed (i.e., the burden of having to give up a portion of their income)—influence compliance decisions. However, the study does not explore how compliance costs directly impact the decision of startups to register for VAT, despite the potential long-term benefits of VAT registration. This gap is important, especially for startups in Kenya, where financial constraints may influence the decision to evade taxes to avoid the perceived high cost of compliance.

Aniyie (2022) suggests that perceived opportunities for non-compliance are influenced by both individual and situational factors, such as risk preferences, business structure, and cultural differences. The study finds that these factors shape how startups navigate their tax obligations, but it does not adequately address how compliance costs affect Kenyan startups. The costs associated with understanding tax laws and managing compliance processes may deter many startups from fully adhering to VAT regulations, particularly in resource-constrained environments. This presents an opportunity to explore how compliance costs specifically influence VAT registration and reporting among startups in Kenya.

Cunha (2020) also focuses on how various administrative requirements and perceptions of evasion opportunities impact tax behavior, suggesting that high compliance costs discourage startups from fully complying with tax obligations. While the study presents an interesting framework, it does not focus on how these factors manifest in Kenya's startup environment. It

also overlooks the role of simplification efforts or technological solutions in reducing compliance costs, leaving an important gap in the research.

In contrast, Tsalis (2020) presents a comparative study on non-compliance rates across countries, arguing that cultural, political, and legislative differences contribute to the variability in compliance behavior. However, the study does not adequately explore the unique administrative challenges that Kenyan startups face in managing compliance costs and VAT obligations. This is a critical gap because cultural and administrative factors in Kenya may differ significantly from those in other countries, requiring more targeted research to understand how compliance costs affect startups in the Kenyan context.

Harju et al. (2019) conducted a study in Finland examining VAT exemption thresholds and found that compliance costs, rather than the VAT rate itself, were the primary driver of non-compliance among small firms. This finding emphasizes that compliance costs can significantly influence business decisions, particularly when startups are trying to scale their operations. While this study highlights the critical role of compliance costs, it focuses on a developed economy, and the findings may not be directly applicable to Kenya, where startup environments differ. This presents a contextual gap that needs to be addressed by examining the specific compliance cost challenges faced by Kenyan startups.

Bellon et al. (2022) discuss the role of digital tools, such as e-invoicing systems, in lowering compliance costs and improving VAT compliance. They found that digital tools can reduce the administrative burden on businesses, but they also note that these tools alone may not be sufficient to boost compliance without accompanying reforms. While this is an important finding, the study's focus on developed economies creates a gap in understanding how Kenyan startups—which may have limited access to digital resources—navigate VAT compliance challenges. There is a need for more research on how technology can be leveraged to lower compliance costs for Kenyan startups.

Saptono et al. (2023) explore how perceptions of reduced compliance costs influence the willingness to comply with tax laws. Their study found that when compliance costs are perceived to be low, startups are more likely to comply. While this is a useful insight, the study, conducted

in Finland, does not address the specific barriers faced by Kenyan startups, where the cost of compliance may still be prohibitively high for many businesses.

The studies reviewed consistently show that compliance costs are a significant barrier to VAT compliance, but they vary in terms of their contexts and methodologies. Most studies, such as those by Harju et al. (2019) and Bellon et al. (2022), focus on developed economies. These findings may not be directly applicable to Kenyan startups, where tax systems are often more complex, and resources for compliance are limited. While many studies focus on the impact of compliance costs on non-compliance, there is insufficient research on how these costs influence the decision of startups to register for VAT in the first place. In Kenya, many startups may avoid VAT registration to stay below the threshold due to high perceived compliance costs, a gap that needs to be addressed. The role of digital tools in reducing compliance costs is acknowledged but underexplored in the context of Kenya. While digital tools like e-invoicing and automated systems have shown promise, Kenyan startups may face challenges in adopting these technologies due to limited access and resources. Research is needed to explore how technology adoption can reduce compliance costs for Kenyan startups. The studies reviewed focus on general compliance costs, but there is little research on how specific industries, especially in developing economies like Kenya, face unique VAT compliance challenges. For instance, the informal sector, which forms a large part of the startup ecosystem in Kenya, may encounter distinct barriers related to compliance costs.

Economic Deterrence Theory can help explain how high compliance costs discourage VAT compliance by creating a cost-benefit analysis for startups, where the perceived cost of compliance outweighs the benefits. Fiscal Exchange Theory also provides insights into the role of perceived fairness in tax compliance, suggesting that if startups believe that tax revenues are used efficiently, they may be more willing to bear compliance costs.

2.3.3 Taxpayer Perception on Value Added Tax Compliance

Rezti (2023) conducted a study focusing on the factors affecting tax compliance, specifically examining taxpayer perception. The study, which used purposive sampling to gather data from individual taxpayers registered at the primary tax office in East Kalimantan, Indonesia, utilized Partial Least Squares (PLS) for data analysis. The findings showed that taxpayers' perceptions of

tax fairness had a negative impact on tax compliance, while perceptions of tax compliance costs had a positive effect. However, this study does not explore how these perceptions might differ for startups in Kenya, where the tax policies and enforcement mechanisms are quite distinct from those in Indonesia or other regions. This leaves a gap in understanding how Kenyan startups perceive VAT fairness and how those perceptions influence their compliance behaviors, given Kenya's unique tax system and enforcement context.

Sritharan and Salawati (2019) explored the factors influencing the relationship between taxpayer perceptions and compliance levels in Yemen. Their study used a five-point Likert scale questionnaire to gather opinions on tax compliance attitudes, revealing that high relative tax rates and a complex tax system were major barriers to compliance. Additionally, the lack of regular tax audits, low fines and penalties, and the misuse of tax amnesties contributed to negative perceptions of tax fairness. While the study provides valuable insights into taxpayer perceptions in Yemen, it does not examine whether simplifying tax procedures for startups in Kenya could improve compliance levels. This is a significant gap, as Kenyan startups face unique challenges related to complex tax procedures, and there is a need to explore whether simplification could enhance compliance.

Ababio and Gnonsio Mangueye (2021) examined taxpayer perceptions in Tamale, Ghana, and their influence on tax compliance decisions. Through questionnaires administered to startup operators, the study found that taxpayers were significantly influenced by the amount of taxes they paid, with high tax rates being seen as a burden. The study also noted that perceptions of government accountability and transparency did not significantly alter attitudes toward tax compliance. Interestingly, perceptions of government benefits, such as infrastructure improvements, did not strongly impact compliance behavior. The study highlighted that the direct cost of taxes influenced startup operators' decisions, but it did not explore whether simplifying VAT procedures for Kenyan startups could lead to improved compliance levels. This remains an important gap, as it is unclear whether reducing the complexity of VAT filing and reporting would alter perceptions and improve compliance among Kenyan startups.

Felix and Rufus (2021) investigated how the perceptions of individual taxpayers in Nigeria influenced their intentions to comply with tax regulations and their impact on tax revenue

performance. The study found a significant connection between taxpayers' compliance intentions and their perception of fairness, as well as moral norms, penalties, and perceived risks. While the study provided valuable insights into the role of fairness and penalties in compliance behavior, it did not address how startups, particularly in resource-constrained environments like Kenya, navigate the balance between ethical considerations and the financial constraints they face when making VAT compliance decisions. This is a notable conceptual gap that needs to be explored further, particularly in the context of Kenyan startups, which often have limited financial resources to manage tax-related expenses and compliance requirements.

The studies reviewed reveal several insights into the influence of taxpayer perception on VAT compliance, but they vary in their methodologies, findings, and contexts. Many of the studies, such as those by Rezti (2023) and Ababio & Gnonsio Mangueye (2021), focus on countries in Southeast Asia and West Africa, where tax systems and enforcement mechanisms are quite different from Kenya's. This creates a gap in understanding how Kenyan startups, which operate in a distinct tax and regulatory environment, perceive fairness, complexity, and government accountability in relation to VAT compliance. Studies like those by Sritharan and Salawati (2019) and Felix and Rufus (2021) emphasize the importance of tax fairness perceptions in influencing compliance. However, they do not fully address how these perceptions manifest in startups, especially in developing economies like Kenya. Further research is needed to explore how Kenyan startups perceive the fairness of VAT taxes and whether these perceptions impact their willingness to comply.

A recurring theme in these studies is the impact of tax system complexity on compliance. However, very few studies explore the potential benefits of simplifying tax procedures for startups, especially in developing countries. Kenyan startups often face complex VAT procedures, which may lead to non-compliance. There is a clear gap in research examining whether simplification efforts could improve VAT compliance among Kenyan startups. Studies such as those by Felix and Rufus (2021) acknowledge the role of moral norms and perceived risks in compliance decisions. However, they do not delve into the tension between startups' ethical considerations and their financial constraints in Kenya. Given the limited resources available to many startups, this presents a critical gap in understanding how startups balance the financial burden of VAT compliance with their ethical obligation to pay taxes.

Fiscal Exchange Theory provides a useful framework for understanding the relationship between taxpayer perception and VAT compliance. According to this theory, startups are more likely to comply when they perceive the tax system as fair and believe that their taxes are being used for the public good. Economic Deterrence Theory also sheds light on how penalties and enforcement mechanisms influence taxpayer behavior. The studies reviewed suggest that perceptions of fairness and penalties play a significant role in compliance, which is consistent with the principles of these two theories.

2.3.4 Technological Changes on Value Added Tax Compliance

Technological advancements have significantly influenced tax compliance globally, with various countries adopting digital systems to streamline tax administration and improve efficiency. Igbinenikaro & Adewusi (2024) argue that technological advancements have significantly transformed tax compliance worldwide, with countries adopting digital systems to streamline processes such as registration, filing, and payment. The study emphasizes that the implementation of e-tax systems in developed countries, such as Estonia and the United Kingdom, has set a benchmark for successful VAT compliance. For example, Estonia's e-tax platform, which integrates with real-time banking data, boasts a compliance rate of over 95%, reducing administrative burdens and minimizing errors (Turksen et al., 2023). The UK's Making Tax Digital (MTD) initiative has similarly improved VAT compliance by mandating electronic filing, which simplifies VAT returns for businesses. While these examples from developed economies illustrate the potential of digital tax systems, the study does not address the specific challenges that Kenyan startups face in adopting and using such systems. This creates a contextual gap as Kenya's technological infrastructure and regulatory environment differ significantly from those of Estonia and the UK. Therefore, there is a need to explore how the existing digital platforms and regulatory frameworks in Kenya impact VAT compliance, especially among startups.

Ochieng (2019) focused on Malaysia's e-filing system, studying how its adoption among individual startups simplified tax compliance processes. The study, which used a survey methodology and regression analysis, found that the e-filing system increased compliance levels by reducing administrative bottlenecks and improving data accuracy. Startups that perceived the system as user-friendly were more likely to comply with tax regulations. However, a significant

gap exists regarding whether Kenyan startups have the digital skills and resources required to effectively utilize these e-filing systems. Kenya's digital infrastructure and the skills gap in the startup ecosystem may hinder the adoption of such systems, creating a knowledge gap in understanding how Kenyan startups interact with these technologies. This gap highlights the need for research focused on whether Kenyan startups can fully benefit from digital tax systems and whether barriers to adoption are limiting compliance.

Latifa and Tanzil (2023) explored the impact of digital tax reforms in emerging economies, specifically examining the effects of electronic VAT invoicing in Indonesia. The study found that real-time transaction monitoring through e-invoicing systems reduced VAT evasion and increased government revenue by enhancing transparency. The adoption of these reforms helped businesses accurately report taxable transactions. While this research contributes valuable insights into the impact of digital tax systems, it does not address the methodological gap regarding Kenya's ability to implement similar systems effectively. Kenya lacks real-time experimental studies to assess how such digital tax platforms influence VAT compliance in the long term. Given Kenya's unique challenges, including infrastructure limitations and a relatively lower level of digital literacy among startups, more research is needed to assess the sustained impact of digital tax systems on VAT compliance in Kenya.

Dlamini (2020) conducted an extensive study in South Africa, focusing on the role of mobile tax applications in improving VAT compliance among startups. The study found that mobile applications helped streamline the tax filing and payment process, enabling startups to meet compliance deadlines more effectively. The use of mobile platforms was associated with increased accuracy in record-keeping, fostering a culture of compliance. However, a conceptual gap remains in understanding whether mobile tax solutions integrated with Kenya's widely used M-Pesa system could similarly enhance VAT compliance among startups. M-Pesa is a widely adopted mobile payment platform in Kenya, and its integration with mobile tax applications could potentially offer a cost-effective solution for startups that rely on mobile technology for financial transactions. However, Dlamini's study does not explore this possibility, leaving a gap in understanding how mobile payment systems like M-Pesa can improve tax compliance in the Kenyan startup ecosystem.

In Rwanda, Giulia and Fabrizio (2023) examined the impact of the e-Tax platform implemented by the Rwanda Revenue Authority on VAT compliance. Their study found that the platform significantly enhanced compliance by providing a centralized system for filing and paying taxes, minimizing delays and errors. The automation of tax calculations and reporting reduced the administrative burden on startups, particularly benefiting smaller businesses. While this study provides useful insights, it leaves a contextual gap as Rwanda's tax policies and implementation strategies may differ from Kenya's. For instance, Kenya's regulatory environment and tax administration systems may present unique challenges for digital tax platforms. Understanding how Kenya's tax authorities can implement similar e-tax reforms that are effective in the Kenyan startup context is critical but remains underexplored in the literature.

The studies reviewed highlight several key themes regarding the role of technological changes in VAT compliance. However, they also reveal significant gaps in research, particularly with regard to Kenyan startups. Most of the studies, such as those by Turksen et al. (2023) and Haines (2020), focus on developed economies where the infrastructure for implementing digital tax systems is more advanced. These findings may not be directly applicable to Kenyan startups, which face challenges such as limited digital literacy, inconsistent internet access, and less mature tax administration systems. There is limited research on whether Kenyan startups have the digital skills required to fully utilize e-tax systems like iTax and eTIMS. Many startups in Kenya are small and may not have access to the training or resources necessary to operate these platforms effectively. Understanding these limitations is crucial to developing strategies that can improve VAT compliance through digital systems.

While studies like Dlamini (2020) explore the potential of mobile tax applications, the idea of integrating such applications with Kenya's M-Pesa system has not been explored. Given the high adoption of M-Pesa in Kenya, this represents a significant research gap that could offer a unique solution for improving VAT compliance. The lack of longitudinal studies assessing the sustained impact of digital tax platforms on VAT compliance, particularly in Kenya, is a major gap. Most studies focus on short-term effects, while Kenya requires a more long-term analysis to understand how digital reforms influence compliance over time.

Economic Deterrence Theory provides a useful lens through which to understand how digital tax systems reduce opportunities for evasion and improve compliance. By simplifying the tax process and increasing the likelihood of detection, these systems reduce the incentive for non-compliance. Additionally, Fiscal Exchange Theory suggests that if startups perceive digital tax systems as efficient and beneficial, they are more likely to comply, as they see a clear return on their tax payments in the form of improved public services.

2.3.5 Moderating Effect of Startup Size on the Determinants of VAT Compliance

Ongondi (2022) argues that startup size plays a crucial role in moderating the relationship between tax knowledge and VAT compliance. Larger startups, due to their greater resources, have more access to professional training programs, tax consultants, and digital tools that enhance their understanding of VAT regulations. The study suggests that this access allows larger startups to implement tax knowledge more effectively, ensuring timely and accurate compliance with VAT obligations. However, while Ongondi highlights the relationship between startup size and tax knowledge, the study does not explore how this dynamic plays out in the Kenyan context, where many startups are small and face unique resource constraints. This presents a contextual gap that needs further exploration.

Pham et al. (2023) support Ongondi's findings by showing that larger startups benefit from economies of scale that allow them to absorb the costs of VAT compliance more efficiently. These startups can afford to hire professional accountants, acquire tax software, and dedicate staff to manage tax filings, reducing the financial strain of compliance. Conversely, smaller startups, often lacking these resources, struggle to meet VAT requirements. This resource disparity between small and large startups highlights the significant role of startup size in VAT compliance. However, Pham et al. do not address how smaller startups in resource-constrained environments, such as Kenya, can overcome these barriers, leaving a research gap in understanding how startups of various sizes navigate compliance challenges, especially in developing economies.

Mpofu (2021) discusses how larger startups, with higher revenue bases and economies of scale, can afford the additional financial burden associated with VAT compliance. These startups are better equipped to absorb costs related to hiring experts, acquiring software, or dedicating staff to

VAT compliance. This resource advantage allows larger firms to comply more efficiently, while smaller startups face disproportionate financial challenges. While Mpofu's study underscores the importance of financial resources in VAT compliance, it does not investigate how smaller Kenyan startups cope with these challenges. There is a gap in understanding the specific barriers faced by small startups in Kenya, where access to financial resources and professional support may be more limited.

Ulyssea (2020) further elaborates on the challenges faced by small startups, noting that they often struggle to allocate funds for essential VAT compliance tasks such as hiring accountants or purchasing tax software. These startups, especially those in the early stages, may find compliance burdensome or even unmanageable. Ulyssea's study draws attention to the financial challenges that small startups face, but it does not address the specific issue of affordability and access to tax resources for startups in Kenya. This presents an important gap in research, particularly regarding how small startups in Kenya's developing economy navigate the complexities of VAT compliance.

Bokhari (2022) discusses how technology adoption for VAT compliance is also influenced by startup size. Larger startups are more likely to invest in advanced digital platforms and automated systems that streamline VAT reporting and filing processes. These systems improve efficiency, minimize errors, and enhance overall compliance rates. In contrast, smaller startups, due to limited capital, often rely on manual processes, which can be time-consuming and prone to inaccuracies. The study highlights the importance of digital tools in improving VAT compliance, but it does not delve into how Kenyan startups, particularly smaller ones, can access or afford such technologies. This represents a methodological gap, as it is unclear whether smaller Kenyan startups are able to leverage digital platforms in the same way as their counterparts in more developed economies.

Jain (2023) echoes the findings of Bokhari (2022) by emphasizing that technology adoption plays a crucial role in VAT compliance. Larger startups can more easily invest in digital tools and software, whereas smaller startups often face challenges in adopting these technologies due to financial constraints. Kenya's startup ecosystem may face additional challenges in accessing advanced digital platforms due to gaps in infrastructure and training. Jain's study does not

address these contextual challenges in developing economies like Kenya, leaving an important gap in research on how smaller startups can overcome these barriers.

The studies reviewed collectively demonstrate that startup size is a significant moderating factor in VAT compliance, with larger startups generally having more resources to comply with VAT regulations. However, there are several important gaps in the literature: Many studies, such as those by Ongondi (2022) and Pham et al. (2023), focus on contexts where startups are typically larger and more resourced. The findings may not be fully applicable to Kenyan startups, many of which are small, operate in the informal sector, and face significant financial and resource constraints. There is a need for research specifically focused on how small startups in Kenya manage VAT compliance. While studies such as those by Mpofu (2021) and Ulyssea (2020) highlight the financial challenges faced by small startups in complying with VAT regulations, there is insufficient research on how small startups in Kenya can overcome these challenges. More research is needed to understand how small Kenyan startups can access resources, such as tax professionals or digital tools, despite their limited budgets.

While the studies by Bokhari (2022) and Jain (2023) show the advantages of digital tax platforms, there is a lack of research on how Kenyan startups can adopt these technologies, especially given the infrastructure challenges and lower levels of digital literacy in Kenya. The role of affordable digital tax tools for smaller startups in Kenya remains underexplored. There is a lack of research on how industry-specific factors interact with startup size to influence VAT compliance. Different sectors may face unique challenges in terms of VAT reporting and tax knowledge. Further research is needed to explore how industry characteristics shape VAT compliance behaviors in Kenyan startups, particularly as hybrid business models (e.g., combining online and offline operations) become more common.

Economic Deterrence Theory can help explain how the costs of compliance influence the behavior of startups of different sizes. Larger startups are better equipped to absorb these costs, while smaller startups may find them burdensome. Fiscal Exchange Theory also provides insights into how the perceived fairness of the tax system influences VAT compliance. Larger startups may be more willing to comply if they perceive a fair exchange between taxes paid and public goods received.

2.4 Summary of Knowledge Gaps

Despite extensive research on VAT compliance, significant gaps remain. First, while studies like Omondi and Theuri (2019), and Nembe and Idemudia (2024) have explored tax knowledge, limited attention has been paid to how startups acquire and implement this knowledge amidst resource constraints. These studies often generalize findings across broader business categories, leaving gaps in understanding the unique challenges startups face in navigating tax systems.

Although compliance costs have been analyzed in studies such as Campbell (2023), the disproportionate financial burden on startups compared to larger firms remains underexplored. These studies highlight the impact of costs but fail to delve into tailored solutions that would address the specific needs of resource-constrained startups.

Studies like Dlamini (2020) focus on technology adoption for compliance; there is insufficient exploration of how startup size moderates the accessibility and effectiveness of these technologies. Larger startups often benefit from economies of scale, while smaller startups face significant barriers, such as cost and technical expertise. Research into bridging this gap is essential to fostering equitable compliance.

Table 2.1 Summary of Research Gaps

Authors	Focus of study	Findings	Research Gap	The focus of the current study
Muthoka (2022)	The primary objective of the research was to examine the factors influencing value added tax compliance among small and medium-sized manufacturing businesses located in the East of Nairobi Tax District	It was found that automation had some important moderating effect on the relation between VAT compliance and some of the moderating factors in small and medium sized manufacturing companies in East of Nairobi. Tax morale, taxpayer awareness and compliance costs are the factors. In the current context, the study was carried out to determine how automation impacts the relationship between these variables	Automation was utilized as a moderating variable and a recommendation is made for other researches to take into account other moderating variables.	The current study has selected the size of a startup as the moderating variable.

		with value added tax adherence.		
Timothy (2024)	The objective of the study was to determine the effect of social norms on value added tax compliance among small and medium enterprises in Embu town, Kenya.	The spread of social norms to encourage VAT compliance is likely to increase this compliance in the future, implying the need to define a proper social norm supporting positive attitudes towards tax compliance.	Other determinants of VAT compliance such as the effect of technology in a different context with different economic and cultural conditions are expanded.	The current study is focused to establish the effect of technology on VAT compliance.

Shakkour, Almohtaseb, Matahen, & Sahkkour, (2021)	This study aims to obtain the results of value added tax (VAT) compliance through behavioral decision theory with work personal attributes of the taxpayer's, tax understanding and taxpayer education, and ability to pay theory with tax compliance cost and audit system as a connecting variable to VAT compliance.	The study established the positive effect of personal characteristics, VAT education, tax compliance and audit system on VAT compliance for SME sector in Jordan.	The study used convenient sampling technique, which consists of the researcher's bias.	This study utilized stratified random sampling method to eliminate bias.
Gimba (2018)	This study investigates empirically the factors influencing VAT compliance intention among SMEs in Nigeria.	It is therefore concluded that, at the time this data are collected for the study, SMEs in Nigeria have a lower compliance intention. Furthermore, detection probability and SME reputation have a positive effect and penalty magnitude has no influence on VAT	The study focused on SMEs operating in Kano state, north-west Nigeria, hence future studies should consider other regions.	The current study focuses on Startups based in Nairobi, Kenya.

		compliance intention of SMEs in Nigeria. The empirical evidence for the positive relationship between the fairness in the tax system and the intention of VAT compliance, which is the study focus, is offered. Apparently mental tax accounting is not significantly associated with the intention to comply with VAT in Nigeria among SMEs.		
King'oina, (2016)	The study objective is the establishment of factors influencing Value Added Tax compliance among construction firms in Kisumu County.	The research study concludes that taxpayer perception and attitudes has a significant effect on tax compliance.	Only the construction sector was the topic of study. To make a public decision, it should be carried on other lines of businesses, for in	The current study focuses on various sectors of businesses

			different industries and sectors operational environment may be different.	
Muhammed, & Tesafa, (2015)	To understand the impact of ETRs machines on VAT compliance among VAT registered Taxpayers empirically, in Amhara National Regional State, taking the case of the city of Bahir Dar.	This study finds that using ETRs machines among VAT registered taxpayers does contribute to the improvement of VAT compliance among taxpayers in the target population.	Simple random sampling technique was used to draw the samples from the total target population.	The use of stratified random sampling method to ensure every sector is studied.
Igbinenikaro & Adewusi (2024)	Global technological tax advancements	Digital systems transform tax administration	Need for comparative studies across different economic contexts	Cross-country analysis of technological tax innovations
Ochieng (2019)	E-filing systems in Malaysia	Technological innovations increase compliance by	Limited exploration of user perception and	Examining user-friendliness of tax

		reducing administrative bottlenecks	system usability across different startup sizes	technology systems
Latifa and Tanzil (2023)	Electronic VAT invoicing in emerging economies	Real-time transaction monitoring reduces VAT evasion	Insufficient research on long-term impact of digital tax reforms	This study looked into sustained effects of digital tax systems
Dlamini (2020)	Mobile tax applications in South Africa	Mobile platforms improve compliance and record-keeping	Lack of comprehensive analysis of mobile technology's broader impact	This study focused on role of technological changes in tax compliance
Schoeman, Evans, & du Preez, (2021)	The research aimed to determine the relationship between changes in the VAT rate and tax compliance behavior.	Based on the Wilcoxon test results, an increase in VAT rate had more effect on purchases that declared. The Mann–Whitney test was used to identify that with a larger increase in the VAT rate, there is a lower amount that is declared for sales which leads to greater levels of	The study suggests that future research to use larger sample sizes and be conducted in other countries to indicate whether other countries experiences the same effect on tax compliance as in South Africa.	This study used a larger sample and was done in Nairobi, Kenya.

		non-compliance.		
Giulia and Fabrizio (2023)	E-Tax platform in Rwanda	Centralized system minimizes delays and errors	Limited research on scalability of digital tax infrastructure	digital tax platforms and startup size
Igbinenikaro & Adewusi (2024), Turksen et al. (2023), Haines (2020)	Impact of technological advancements (e-tax systems) on VAT compliance	Positive impact on compliance through automation, efficiency, and reduced errors.	Limited research on the specific challenges and barriers faced by startups in adopting and utilizing e-tax systems effectively.	Investigate the specific challenges and barriers faced by startups in adopting and utilizing e-tax systems effectively, such as technical issues, lack of digital literacy, and cost constraints.
Ochieng (2019), Mustapha et al. (2021)	Adoption of e-filing systems by individual startups	Increased compliance through reduced bottlenecks and improved data accuracy.	Limited understanding of the specific factors influencing the successful adoption and sustained use of e-filing systems among startups.	Explore the factors that influence the successful adoption and sustained use of e-filing systems among startups, such as user experience, training, and support services.
Latifa &	Effects of digital tax reforms (e-	Increased revenue,	Limited exploration of	Investigate the long-term

Tanzil (2023)	invoicing) in emerging economies	reduced evasion, and improved transparency.	the long-term sustainability and equity implications of digital tax reforms for startups in emerging economies.	sustainability and equity implications of digital tax reforms for startups in emerging economies, particularly focusing on the potential for digital divide and the need for inclusive policy interventions.
Dlamini (2020)	Role of mobile tax applications in improving VAT compliance	Streamlined processes, increased accuracy, and improved access to tax services.	Limited research on the specific challenges and barriers faced by startups in utilizing mobile tax applications effectively, such as data security concerns, limited internet connectivity, and device compatibility issues.	Investigate the specific challenges and barriers faced by startups in utilizing mobile tax applications effectively, such as data security concerns, limited internet connectivity, and device compatibility issues.
Giulia & Fabrizio	Impact of e-Tax platforms on VAT compliance	Enhanced compliance through centralized	Limited understanding of the specific	Investigate the specific challenges and barriers

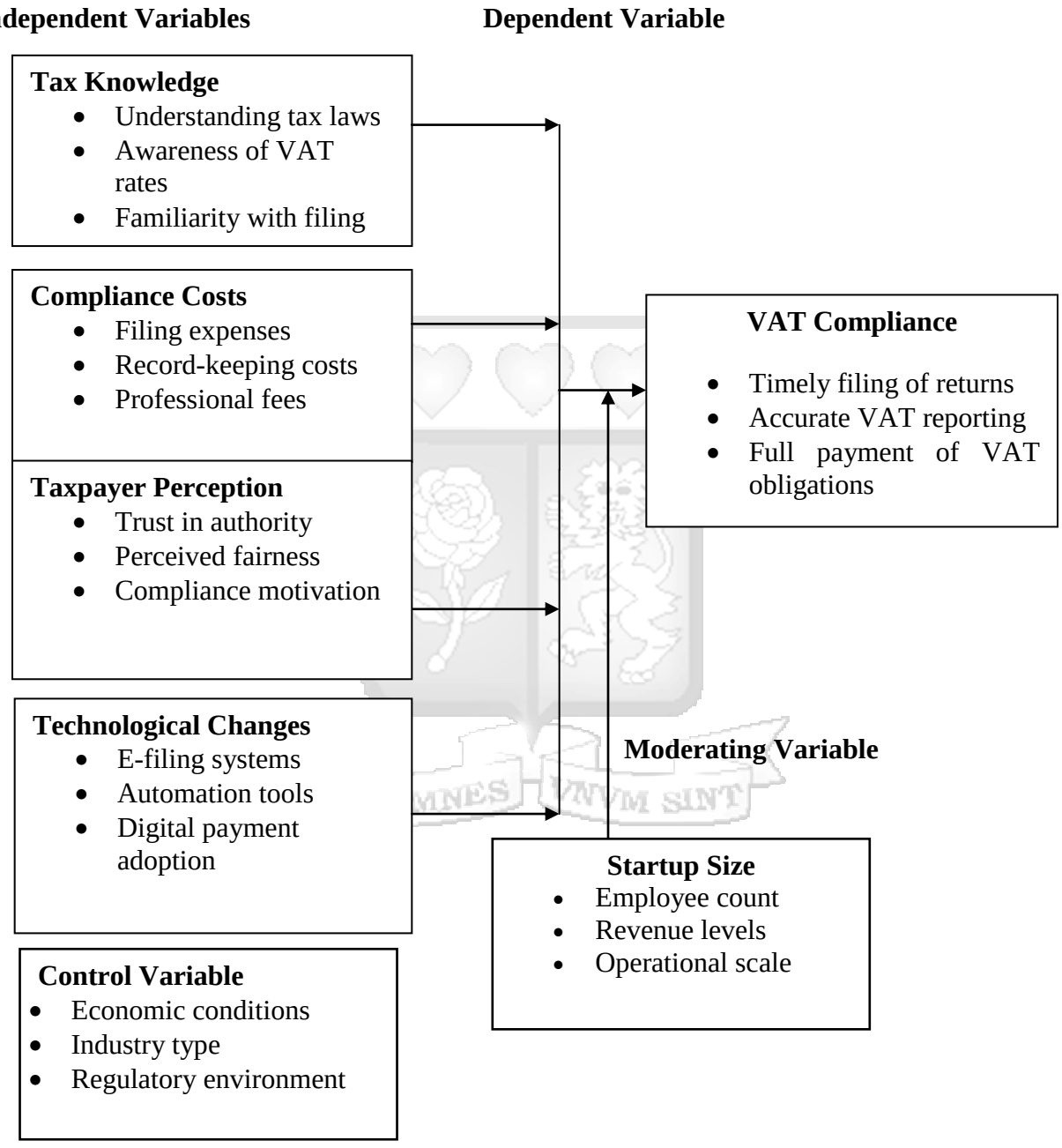
(2023), Mascagni et al. (2023)		systems, automation, and reduced administrative burden.	challenges and barriers faced by startups in utilizing e-Tax platforms effectively, such as technical glitches, system downtime, and lack of adequate training and support.	faced by startups in utilizing e-Tax platforms effectively, such as technical glitches, system downtime, and lack of adequate training and support.
Ongondi (2022), Pham et al. (2023)	Moderating effect of startup size on the relationship between tax knowledge and VAT compliance	Larger startups have better access to resources and can apply tax knowledge more effectively.	Limited research on the specific mechanisms through which startup size influences the acquisition and application of tax knowledge.	Investigate the specific mechanisms through which startup size influences the acquisition and application of tax knowledge, such as access to training programs, professional advice, and networking opportunities.
Mpofu (2021), Ulyssea (2020)	Moderating effect of startup size on the financial feasibility of VAT compliance	Larger startups can better absorb compliance costs due to higher revenue and economies of scale.	Limited understanding of the specific financial constraints faced by smaller startups in	Investigate the specific financial constraints faced by smaller startups in meeting VAT obligations

			meeting VAT obligations and the available support mechanisms to address these challenges.	and the available support mechanisms to address these challenges, such as tax incentives, grants, and financial assistance programs.
Bokhari (2022), Jain (2023)	Moderating effect of startup size on technology adoption for tax compliance	Larger startups can invest in advanced digital platforms and automated systems.	Limited research on the specific technological needs and preferences of startups of different sizes and the development of customized solutions to address these needs.	Investigate the specific technological needs and preferences of startups of different sizes and develop customized solutions to address these needs, such as user-friendly interfaces, affordable software options, and tailored training programs.

Source: Author (2025)

2.5 Conceptual Framework

The conceptual framework typically consists of key concepts, variables and relationships between the independent and dependent variables.



Source: Author (2025)

Figure 2.1 Conceptual Framework

The conceptual framework illustrates the relationships between the independent variables, the dependent variable (VAT compliance), and the moderating variable (startup size) in the context of Kenyan startups. Independent Variables comprises of Tax Knowledge: A key factor influencing VAT compliance. According to Fiscal Exchange Theory, startups with better tax knowledge are more likely to comply as they understand their role in contributing to public goods and services. Compliance Costs are the financial and administrative costs associated with VAT compliance. Economic Deterrence Theory suggests that high compliance costs may deter startups from fulfilling their tax obligations. Taxpayer Perception entails how startups perceive the fairness of the tax system. Positive perceptions of fairness and efficiency encourage compliance, as outlined in Fiscal Exchange Theory. Technological Changes comprises how the use of digital tools (e-filing, automation, etc.) can ease compliance. Economic Deterrence Theory suggests that technology reduces non-compliance risks by simplifying the reporting process.

Moderating Variable is the Startup Size while the dependent Variable which is VAT Compliance is measured by timely filing, accurate reporting, and full payment of VAT. The independent variables and startup size influence these compliance behaviors. Control Variables which are not focused in this study comprises of Economic Conditions, Industry Type, and Regulatory Environment, these factors may also affect VAT compliance but are outside its scope.

2.6 Operationalization of Variables

Table 2.2 Operationalization of Variables

#	Type of variable	Variable	Measurement indicator	Data collection tool	Data Analysis	Source
1	Dependent Variable	VAT Compliance	Timely filing of returns Accurate VAT reporting Full payment of VAT obligations	5-Point Likert scale. 1. Strongly agree 2. Agree 3. Relatively agree 4. Disagree 5. Strongly disagree	Quantitative analysis	Gimba (2018); Irungu & Nekesa (2024). Chiaji et al. (2024).
2	Independent variable	Tax Knowledge	Understanding tax laws Awareness of VAT rates Familiarity with filing	5 -Point Likert scale. 1. Strongly agree 2. Agree 3. Relatively agree 4. Disagree 5. Strongly disagree	Quantitative analysis	Bornman & Ramutumbu (2019); Taing & Chang (2021).
3	Independent	Compliance	Filing expenses Record-keeping	5 -Point Likert	Quantitativ	Harju et al.

	variable	Costs	costs Professional fees	scale. 1. Strongly agree 2. Agree 3. Relatively agree 4. Disagree 5. Strongly disagree	e analysis	(2019); Bellon et al. (2022).
4	Independent variable	Taxpayer Perception	Trust in authority Perceived fairness Compliance motivation	5 -Point Likert scale. 1. Strongly agree 2. Agree 3. Relatively agree 4. Disagree 5. Strongly disagree	Quantitative analysis	Adams & Webley (2001); Rezti (2023).
5	Independent variable	Technological Changes	E-filing systems Automation tools Digital payment adoption	5 -Point Likert scale. 1. Strongly agree 2. Agree 3. Relatively agree 4. Disagree	Quantitative analysis	Ochieng (2019); Latifa & Tanzil (2023).

				5. Strongly disagree		
6	Moderating Variable	Startup Size	Employee count Revenue levels Operational scale	5 -Point Likert scale. 1. Strongly agree 2. Agree 3. Relatively agree 4. Disagree 5. Strongly disagree	Quantitative analysis	Mpofu (2021); Bokhari (2022).

Source: Author (2025)

2.7 Chapter Summary

This chapter reviewed literature on VAT compliance determinants, focusing on tax knowledge, compliance costs, taxpayer perception, and technological changes. Theoretical frameworks including fiscal exchange theory and economic deterrence theory provided insights into voluntary and enforced compliance mechanisms. Empirical studies identified gaps in tax knowledge accessibility, disproportionate compliance costs, and unequal technological adoption influenced by startup size. The conceptual framework integrates these determinants with the moderating role of startup size, offering a foundation for examining compliance behavior among startups in Kenya.

CHAPTER THREE
METHODOLOGY

3.1 Introduction

This chapter outlined the research design of the study, the target population, sampling techniques and sample size, data collection methods, the validity and reliability of the research instruments, the data gathering procedure, the approach to data analysis, and the ethical considerations involved.

3.2 Research Philosophy

Research philosophy relates to the underlying assumptions and beliefs regarding how knowledge is generated, interpreted and analyzed in a study. Several philosophical approaches are available to the researchers and these are positivism, interpretivism, realism and pragmatism. All philosophies have unique assumed qualities in research and application. Philosophically, Positivism is approached as an ideal that encourages objectivity, empirical evidence and the use of quantitative methods to establish links between variables (Abu-Alhaija, 2019). By its very nature it takes for granted that reality is objective and separate from human perception and that knowledge can be found out by systematic observation and measurement. Researchers following a positivist approach aim for generalizability and replicability. This philosophy is common in the natural sciences and fields that rely on structured methodologies, such as economics, finance, and taxation research (Mbanaso et al., 2023).

Interpretivism, also known as constructivism, takes a contrasting view to positivism by emphasizing subjective meaning and human experience in research (Bryman, 2021). It argues that reality is socially constructed and varies across individuals and contexts. Interpretivists focus on qualitative methods, such as interviews, focus groups, and case studies, to explore in-depth human behavior, perceptions, and interpretations. This philosophy is widely used in social sciences, particularly in fields like sociology, psychology, and anthropology, where understanding human experiences is crucial. Realism is a middle-ground philosophy that combines aspects of both positivism and interpretivism. It suggests that there is an objective reality, but human perceptions and interpretations influence how it is understood (Saunders, Lewis, & Thornhill, 2019). Realism recognizes that while some phenomena can be measured objectively, other aspects of social and economic life are influenced by individual perspectives

and experiences. This philosophy is often used in mixed-methods research, where both qualitative and quantitative approaches are combined to explore complex issues.

Pragmatism is a practical approach that focuses on using the best research methods to address a problem, rather than committing to a specific philosophical stance (Morgan, 2014). Pragmatists argue that research should be driven by practical considerations and that both qualitative and quantitative methods can be used to gain a deeper understanding of an issue. This approach is commonly employed in multidisciplinary research and applied fields such as business, education, and public policy. This study adopts a positivist research philosophy because it aligns with the study's focus on empirical measurement and quantitative analysis of VAT compliance determinants. Given that the research examined the moderating role of startup size in VAT compliance using measurable variables and statistical techniques, positivism is the most appropriate approach.

The rationale for choosing positivism is as follows, positivism ensures that findings are based on observable, measurable data rather than subjective interpretations, enhancing the reliability of results (Mbanaso et al., 2023). Since the study employed quantitative methods (such as surveys and statistical modeling), positivism provides the appropriate framework for analyzing numerical data. Positivism supports hypothesis testing and determining links between variables, making it suitable for studying VAT compliance determinants (Abu-Alhaija, 2019). By applying structured methodologies, positivist research ensures that findings can be replicated in other contexts and generalized beyond the study sample (Saunders et al., 2019).

The positivist research philosophy is well-aligned with the study's general and specific objectives, as it emphasizes the use of measurable data and systematic observation, which are central to this research. The general objective of assessing the determinants of VAT compliance among startups in Kenya, including the moderating role of startup size, requires an empirical approach focused on quantifiable data. Each specific objective, such as determining the influence of tax knowledge, compliance costs, taxpayer perception, and technological changes on VAT compliance, calls for statistical analysis and the use of structured methodologies like surveys to gather objective, measurable data. The choice of positivism is further justified by its emphasis on generalizability and replicability, which ensures that findings can be applied to a broader context

beyond the sample studied, contributing to the understanding of VAT compliance determinants in Kenya. Additionally, the moderating effect of startup size is best explored through quantitative methods, as positivism allows for the measurement of complex relationships and interactions between variables. The empirical gaps in existing research, particularly regarding VAT compliance in Kenyan startups, are effectively addressed by this approach, providing valuable, evidence-based insights into the role of tax knowledge, compliance costs, taxpayer perception, and technological changes in influencing VAT compliance behavior.

3.3 Research Design

Research design refers to the strategy used to integrate different components of the study in a coherent manner, guiding the collection, measurement, and analysis of data. A well-planned design ensures that the research questions are answered effectively and ethically (Creswell, 2014). The choice of research design influences how the study addresses the research problem.

Various research designs exist, each suited for specific inquiries. Exploratory research is used when the topic is not well understood and aims to generate new ideas or hypotheses (Stebbins, 2001). Descriptive research provides a detailed account of a phenomenon's characteristics but does not explain the underlying causes (Neuman, 2014). Correlational research examines relationships between variables without establishing cause and effect (Cohen et al., 2013). Experimental research is designed to determine causal relationships by manipulating variables and using control groups (Babbie, 2021). Explanatory research seeks to explain the relationships between variables, often using quantitative data and statistical analysis to test hypotheses (Blatter & Haverland, 2012).

The explanatory research design aligns with this study as it aims to identify and explain the relationships between VAT compliance determinants and startup size through quantitative data analysis. This design is crucial for understanding how variables interact and affect each other, providing actionable insights for startups in Kenya to optimize operations and improve performance (Baskerville & Pries-Heje, 2010). It enables the testing of effects, making it ideal for this research.

3.4 Population

A target population is the entire group that a researcher is interested in studying. This group is characterized by specific attributes relevant to the research question or intervention goals. For instance, in social science research, the target population might include individuals of a certain age, gender, or socioeconomic status, while in environmental studies; it could refer to a particular geographic area or ecosystem. A population is a well-defined or set of people, services, elements, and events, group of things or households that are being investigated (Casteel, & Bridier, 2021). The study targets 308 startups in Nairobi City (Disrupt Africa, 2022). The startups comprise of Fintechs, Agri-techs, E-commerce, Mobility, Energy, Ed-tech, Logistics, Marketing, E-health, Recruitment and HR and others. Therefore, the total population of the study consisted of 308 startups as presented in Table 3.1.

Table 3.1 Target Population

Category of Startups	**Population**	**Percentage (%)**
Fintechs	93	30.2
Agri-techs	31	10.1
E-health	31	10.1
E-commerce	29	9.4
Mobility	8	2.6
Energy	7	2.3
Ed-tech	18	5.8
Logistics	14	4.5
Marketing	7	2.3
Recruitment and HR	19	6.2
Others	51	16.6
TOTAL	**308**	**100**

Source: Disrupt Africa Report (2022)

3.5 Sampling

The study employed stratified random sampling method when collecting data from startups in various categories. Startups across different industry categories may exhibit unique

characteristics and face distinct challenges. By using a stratified sampling approach, the study ensures that each industry category is represented proportionally in the sample, thus providing a more accurate and representative picture of the overall startup landscape. Stratified random sampling allows for greater precision in estimating population parameters within each stratum. (Iliyasu & Etikan, 2021). Since startups within the same industry category are likely to have similar characteristics, stratification enables the researcher to reduce variability within strata, leading to more precise estimates of the impact of tax policies on revenue performance within each category.

The sample size was determined using Yamane's formula:

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

Where:

n = sample size

N = total population size (308 startups)

e = margin of error (0.05 at 95% confidence level)

$n=\frac{308}{1+308(0.05^2)}$= 174

The sample size for the study was 174 respondents as shown in Table 3.2 below.

Table 3.2 Sample Size

Category of Startups	Sampling procedure	Sample size
Fintechs	93/308*174	53
Agri-techs	31/308*174	18
E-health	31/308*174	18
E-commerce	29/308*174	16
Mobility	8/308*174	5
Energy	7/308*174	4

Ed-tech	18/308*174	10
Logistics	14/308*174	8
Marketing	7/308*174	4
Recruitment and HR	19/308*174	11
Others	51/308*174	29
TOTAL	**308**	**174**

Source: Author (2025)

The study collected data from 174 startups comprising 53 Fintechs startups, 18 Agri-techs startups, 18 E-health startups, 16 E-commerce startups, 5 Mobility startups, 4 Energy startups, 10 Ed-tech startups, 8 Logistics startups, 4 Marketing startups, 11 Recruitment and HR startups, and 29 Other startups in Nairobi Kenya (Appendix IV).

3.6 Data Collection Methods

Systematic approaches for gathering information through data collection methods are used for research, analysis, and/or decision making. The study adopted primary data collection. Primary data is collected directly from first-hand sources. This is typically more reliable and relevant to specific research questions. The questionnaires are tools to be used gather data through structured questions. They were administered in various formats, including online, paper-based, or face-to-face. Surveys are effective for collecting data from large populations efficiently (Alshira'h, A, 2023).

To collect data from startup officers, the study utilized questionnaires tailored to capture relevant information regarding the determinants of VAT compliance. These questionnaires were designed to elicit quantitative responses, allowing for the systematic analysis of trends and patterns in the data provided by respondents. The questionnaire had two sections.

Questionnaires are highly relevant due to their efficiency in collecting standardized data from diverse participants, offering anonymity and privacy, and being cost-effective and accessible, especially with advancements in technology. They facilitate efficient data analysis, accommodate various research objectives and populations, and are adaptable for longitudinal studies or feedback purposes. Questionnaires provide a versatile and valuable tool for researchers,

educators, and organizations to gather valuable insights, assess opinions, and track trends across different fields and contexts.

3.7 Data Collection Procedures

The researcher acquired an introductory letter from the university, Strathmore University Ethical Review Committee approval and a research permit from National Commission for Science, Technology and Innovation (NACOSTI). The researchers dropped and picked the questionnaires on the scheduled date administered to the respondents. Further follow up was conducted to ensure the questionnaires answer the research in the required manner. The questionnaires were collected for analysis only after the respondents have had enough time to fill them out. In addition, the researcher suggested the purpose of the visit to the respondents.

3.8 Data Analysis

Description and inferential statistics were used to analyze the data collected. Where the descriptive statistics was frequency, percent, means and standard deviations and inferential statistics was correlation and Ordinal Logistic Regression (OLR). Statistical Package for Social sciences (SPSS) version 25 was used for data analysis.

Ordinal Logistic Regression (OLR) is used since the variables are ordinal in nature, measured by a Likert scale. In this study measuring tax compliance on a scale (from “Strongly Disagree” to “Strongly Agree”), OLR allowed the study to model the relationship between this ordinal outcome and one or more independent variables (tax knowledge, compliance costs, taxpayer perception, and technological changes) while maintaining the order of the categories.

$$\text{logit}(P(Y \leq j)) = \beta_{j0} + \beta_1(\text{Tax Knowledge}) + \beta_2(\text{Compliance Costs}) + \beta_3(\text{Taxpayer Perception}) + \beta_4(\text{Technological Changes}) \quad \text{Eq 3.1}$$

$$\text{logit}(P(Y \leq j)) = \beta_{j0} + \beta_1(\text{Tax Knowledge}) + \beta_2(\text{Compliance Costs}) + \beta_3(\text{Taxpayer Perception}) + \beta_4(\text{Technological Changes}) + \beta_5(\text{Startup Size}) + \beta_6(\text{Tax Knowledge} \times \text{Startup Size}) + \beta_7(\text{Compliance Costs} \times \text{Startup Size}) + \beta_8(\text{Taxpayer Perception} \times \text{Startup Size}) + \beta_9(\text{Technological Changes} \times \text{Startup Size}) \quad \text{Eq 3.2}$$

where:

- $P(Y \leq j)$ is the cumulative probability of tax compliance being in category j*j* or lower (e.g., "Strongly Disagree" to "Neutral"),

- β_{j0} is the intercept for category j*j*,
- $\beta_1,\beta_2,\beta_3,\beta_4$ are the coefficients for the respective independent variables,
- j=1,2,...,J−1*j*=1,2,...,*J*−1, with J*J* being the total number of ordered categories.

β_5(Startup Size): This is the direct effect of Startup Size on tax compliance.

β_6(Tax Knowledge×Startup Size)

β_7(Compliance Costs×Startup Size)

β_8(Taxpayer Perception×Startup Size)

β_9(Technological Changes×Startup Size)

OLR is tailored for situations where the dependent variable is ordinal. It respects the ranking of responses without assuming equal distances between categories, which is a common pitfall when treating Likert scale data as continuous. The coefficients obtained from OLR can be interpreted in terms of odds ratios. For instance, a positive coefficient for an independent variable indicates that an increase in that variable increases the odds of being in a higher category of tax compliance.

Assumptions of the model are that the dependent variable must be ordinal. Independent variables can be continuous, categorical, or ordinal. The proportional odds assumption must hold, meaning that the relationship between each pair of outcome groups is the same.

3.9 Research Quality

Prior to the main study, a pilot study was carried out in Kiambu County. This is aimed at assessing the validity and reliability of the research instruments, the researcher distributed questionnaires to respondents at startup firms in Kiambu County. The respondents in the pilot constituted 10% of the sample size (Doody & Doody, 2015). The outcome from the pilot questionnaires allowed the researcher to evaluate the consistency of the responses and make necessary adjustments to the research instrument. Kiambu County was selected for the pilot due to the similarities between the startup firms there and those in Nairobi County, owing to their geographical proximity.

3.9.1 Reliability of Research Instruments

Cronbach (1951) defines reliability as the consistency of measurement or how much the things measured are in fact the same when measured repeatedly in the same conditions with the same

subjects. The researcher applied an internal consistency measure, Cronbach's alpha (α) to assess reliability. This indicates the amount to which a collection of test items can be considered to measure one unifying construct. To decide the acceptable reliability, a threshold value 0.7 is used. The Kuder Richard (K-R) 20 formulas, which are used to assess the internal consistency of an instrument on the basis of split half reliabilities obtained from all of the possible halves of the data, are generalized as Cronbach's alpha.

3.9.2 Validity of Research Instruments

Validity refers to the extent to which a method accurately measures what it is designed to measure (Almanasreh, Moles & Chen, 2019). There are several types of validity that are crucial in ensuring the accuracy of research findings. Face validity is a type of validity that assesses whether a test or scale appears to measure what it is supposed to measure (Clark & Watson, 2019). It involves subjective judgments by experts to determine if the test items seem logically related to the construct under study. Content validity is a type of validity which evaluates whether a test or scale measures all the components of a given construct (Almanasreh, Moles & Chen, 2019). It involves ensuring that the test includes items that assess every domain of the construct, as determined by subject matter experts.

Construct validity is a type of validity which examines whether a measurement tool truly assesses what it is designed to assess (Tavakol & Wetzel, 2020). Others include cross validity and reliability with which the performance of the tool in measuring the intended construct is established. Criterion validity also known as concurrent validity refers to the extent to which the test measures a specific outcome for which it has been developed (Hayashi, Abib & Hoppen, 2019). They are predictive validity, concurrent validity, convergent validity and discriminant validity. To get these types of validity, researcher used expert panels in face and content validity. The analysis of the assessment information is to guarantee that many facets of the construct are represented by the test items. Carrying out research to test relationships between two or more variables that all measure the same phenomenon. This method works by comparing the final results with actual values in as an effort to make sure that it is actually accurate.

3.10 Ethical Considerations

According to Kitchener Karen (2011), ethics involves considerations about how individuals should interact with one another. To adhere to the ethical standards, the researcher got an introductory letter from Strathmore Business School, clearance from the University's Ethical Review Committee and a research permit from the National Commission for Science, Technology, and Innovation (NACOSTI). The confidentiality of the respondents and data obtained was strictly maintained throughout the study. An informed consent form was used, which included information about the voluntary nature of participation, the study's objectives, procedures, selection criteria, expected benefits, any potential risks, and assurances of confidentiality and privacy during data collection. Once the respondents have read and understood the informed consent, they were asked to confirm whether they are willing to participate by signing the consent form.

3.11 Chapter summary

The research methodology for the study is clearly explained in this chapter. The research adopted positivist paradigm to study VAT compliance factors within startups operating in Nairobi Kenya by utilizing objective measurement methods and quantitative methods. To study the connections between startup size variables and VAT compliance elements the study used explanatory research design. 308 startups participated in the research from sectors including Fintech, Agri-tech, E-commerce, E-health along with other industries. Each category of the sample contained respondents from which 174 participants were randomly selected through stratification. A designed system of structured questionnaires gathered quantitative responses from study participants. The study used SPSS Version 25 for statistical analysis which integrated descriptive procedures together with correlation analysis and Ordinal Logistic Regression (OLR) inferential techniques. The diagnostic tests confirmed that the regression model functioned correctly for dealing with the ordered nature of the dependent variable. Pilot study took place in Kiambu County to validate and establish the reliability of research measurement tools and Cronbach's alpha analyzed internal consistency. The researchers strictly maintained ethical standards by getting consent from participants while protecting respondent confidentiality and obtaining permission from NACOSTI and Strathmore University research permits throughout the entire project duration.

CHAPTER FOUR
PRESENTATION OF RESEARCH FINDINGS

4.1. Introduction

The general objective of the study was to assess determinants of value-added tax compliance and the moderating role of startup size in Kenya. This chapter entails presentation of research findings and discussions emanating thereof in line with the objective of the study. To this end, this chapter presents the response rate, respondents' demographic information, findings on objectives using descriptive statistics and results of inferential statistics.

4.2. Response Rate

This study's target population was 308 startups in Nairobi City from which a sample of 174 was selected for data collection through stratified random sampling method. During data collection, a total of 154 startups participated in the study giving rise to 88.6 % return rate.

Table 4.1: Response Rate

	Frequency	**Percentage**
Complete questionnaires returned	154	88.51
Questionnaires not returned	20	11.49
Questionnaires distributed	**174**	**100.0**

Source: Researcher (2025)

According to Stedman et al., (2019) a return rate of above 70% is excellent and thus the researcher proceeded to analyse the data. The rate of response is an important aspect that contributes to the validity of a research.

4.3 Respondents' Demographic Information

This section describes the demographic profile information obtained from participants in this research, which included their age, gender, education level and position in the organization. This demographic information for respondents is summarized in Table 4.2

Table 4.2: Respondents' Demographic Profile Information

		Frequency	Percentage
Gender	Female	80	51.9
	Male	64	41.6
	Prefer not to say	10	6.5
	Total	**154**	**100.0**
Age	18 - 25	25	16.2
	26-35	69	44.8
	36-45	36	23.4
	Above 45	24	15.6
	Total	**154**	**100.0**
Number of years worked at the firm (Startup)	1-3	59	38.3
	4-6	41	26.6
	7-10	41	26.6
	Above 10 years	13	8.5
	Total	**154**	**100.0**
Highest Level of Education	Bachelor Degree	75	48.7
	Certificate	14	9.1
	Diploma	23	14.9

	Master Degree	42	27.3
	Total	**154**	**100.0**
Turnover levels in KES	0 – 500,000	73	47.4
	5,000,000 – 50,000,000	34	22.1
	500,000- 5,000,000	44	28.6
	Above 50,000,000	2	1.3
	Total	**154**	**100.0**

Source: (Researcher, 2025)

Female participants formed the majority (51.9%) of respondents and were followed by male participants who consisted of 41.6% of the total sample size. The remaining 6.5% of respondents declined to reveal their gender identity. A low number of 6.5% of the sample chose to keep their gender information private. The participant pool shows fair gender equality because women take up a slight majority.

Additionally, majority of the respondents were between the age range of 26 to 35 years (44.8%) and those between 36 to 45 years maintained the second-highest number of respondents at 23.4%. Among the respondents, 16.2% were aged 18 to 25 years and 15.6% came from the age group over 45 years. Most participants belonged to the early to mid-career stages which shows the workforce at these companies tends to be mainly active employees.

The employees who started working at startups within one to three years represented the largest group with 38.3% while 26.6% had spent between four to six years at the company. Another category of participants consisting of 26.6% had worked for seven to ten years while 8.5% maintained their employment at the startup for more than one decade. A majority of workers in the startup sector belong to the early group with 1 to 3 years of experience supported by equally strong populations of both short-term and experienced employees.

Majority of survey participants reported attaining a Bachelor's Degree (48.7%) while Master's Degree (27.3%) and Diploma (14.9%) and Certificate (9.1%) were the subsequent levels of education among respondents. The proportion of respondents who had completed their Diploma education was 14.9% and those with a Certificate background formed 9.1% of the surveyed group. Most of the workforce members possess diploma-level education or higher as their highest qualification.

Most businesses (47.4%) reported Kenya Shillings transactions between 0 and 500,000 while 28.6% indicated turns of 500.000 to 5,000,000. Study participants with business turnover levels between 5,000,000 and 50,000,000 made up 22.1% of the total respondents while 1.3% had turnover levels above 50,000,000. This data indicates that most startups which participate in the research demonstration early-stage development since few startups progressed to higher revenue categories.

4.4 Descriptive Analysis

In this section, the descriptive analysis of the variables in this study is presented. The section presents the descriptive analysis of tax knowledge, compliance cost, taxpayers perception, technological changes, VAT compliance among startups and startup size.

4.4.1 Descriptive Statistics on influence of Tax Knowledge on VAT compliance

The first objective of this research was to determine the influence of Tax Knowledge on VAT compliance among startups in Kenya. The indicators for Tax Knowledge that were used in this study were Understanding tax laws, Awareness of VAT rates, Familiarity with filing. The mean values and standard deviation on VAT knowledge and awareness are presented in Table 4.3. Most survey participants showed self-assurance about their VAT-related understanding. Respondents demonstrated high awareness regarding their startup responsibilities for VAT registration according to their agreement level (Mean = 3.88, Standard Deviation = 1.151). The study demonstrated that respondents grasp the essential principles of Value Added Tax (Mean = 3.77, Standard Deviation = 1.176) as well as know proper methods for computing and paying VAT to tax authorities (Mean = 3.75, Standard Deviation = 1.261). This indicates average operational knowledge among respondents. The research showed respondents display an adequate level of understanding regarding different VAT rates which affect their businesses

(Mean = 3.67, Standard Deviation = 1.188) as well as VAT record-keeping requirements (Mean = 3.58, Standard Deviation = 1.297). The survey participants demonstrated adequate knowledge to detect risks along with challenges related to VAT (Mean = 3.53, Standard Deviation = 1.314). Overall financial performance of startups improves through effective tax knowledge according to survey participants (Mean = 3.81, Standard Deviation = 1.214). The overall mean score across all VAT-related statements was 3.71, suggesting that respondents generally agreed with the statements presented. These findings are summarized in Table 4.3.

Table 4.3: Descriptive Statistics for Tax Knowledge on VAT compliance

Statement	**N**	**Mean**	**Stdv**
1. I understand the basic concepts of Value Added Tax (VAT).	154	3.77	1.176
2. I am aware of my VAT registration obligations as a startup.	154	3.88	1.151
3. I know how to calculate and remit VAT to the tax authorities.	154	3.75	1.261
4. I understand the different VAT rates applicable to my business operations.	154	3.67	1.188
5. I am familiar with the VAT record-keeping requirements.	154	3.58	1.297
6. I have sufficient knowledge to identify potential VAT-related risks and challenges.	154	3.53	1.314
7. I believe that having good tax knowledge improves my startup's overall financial performance.	154	3.81	1.214
Overall mean		**3.71**	**1.23**

Source: Researcher (2025)

Key: Mean (0-1.4) =Strongly Disagree, Mean (1.5-2.4) =Disagree, Mean (2.5-3.4) =Neutral, Mean (3.5-4.0) = Agreed, Mean (4.5-5.0) = Strongly Agree.

These findings are consistent with the study done by Bernard, Memba and Oluoch, (2018) which revealed that tax knowledge & awareness has a very close relationship with taxpayers' ability to

understand the laws and regulations of taxation, and their ability to comply with them. It was therefore possible to conclude that firms with well-trained employees on tax issues had a high likelihood of complying voluntarily with tax laws and regulations.

4.4.2 Descriptive Statistics on influence of compliance costs on VAT compliance

The second objective of this research was to establish the influence of compliance costs on VAT compliance among startups in Kenya. The indicators that were used for compliance costs included Filing expenses, Record-keeping costs and Professional fees.

The study results in Table 4.4 shows that business owners consider startup costs for accountant or tax advice to be quite significant (mean =3.64 standard deviation 1.357). Record-keeping and reporting take a significant amount of time from their resources (Mean=3.66 standard deviation = 1.206). Research findings demonstrate that majority of respondents concurred with this assertion thus confirming administrative time used for VAT compliance presents an issue for startup companies. Analysis revealed that VAT regulations possess high levels of complexity (mean= 3.71, standard deviation =1.181). The survey data indicates that most participants accepted regulatory complication operates as a major factor increasing compliance expenditures. The respondents also rated the expenses of accounting software and compliance technology (mean = 3.63, standard deviation at 1.283). The middle value score indicates moderate consensus that these costs serve as obstacles for startup compliance effectiveness although some businesses manage to handle them effectively.

Additionally, findings revealed that startup business owners perceive compliance costs to have negative effects on their cash flow circulation (mean =3.71, standard deviation= 1.277). Most startups agree that VAT-related expenses create cash flow pressure on business finances especially among those businesses which have small cash reserves. Survey participants strongly agreed that compliance costs serve as a deterrent for startup expansion (Mean = 3.86, Stdv= 1.223). Such findings suggest business leaders across the board believe that VAT compliance requirements pose a significant growth barrier for developing enterprises. Finally, findings also indicated that the respondent also agreed that accountant and tax advisor expenses obtained (mean = 3.77, standard deviation = 1.193). Startups view professional tax support as a significant

financial burden that stands as the main conclusion from the initial insight. These findings are summarized in Table 4.4.

Table 4.4: Descriptive Statistics for compliance costs on VAT compliance

Statements	N	Mean	Stdv
1. The cost of hiring an accountant or tax advisor is a significant burden on my startup	154	3.64	1.357
2. The time spent on record-keeping and reporting is a major drain on my resources	154	3.66	1.206
3. The complexity of regulations significantly increases my compliance costs	154	3.71	1.181
4. The cost of investing in accounting software or other technology to manage compliance is prohibitive for my startup.	154	3.63	1.283
5. Compliance costs negatively impact my startup's cash flow	154	3.71	1.277
6. High compliance costs discourage startups from growing and expanding their businesses	154	3.86	1.223
7. The cost of hiring an accountant or tax advisor is a significant burden on my startup.	154	3.77	1.193
Overall mean		**3.71**	**1.25**

Source: Researcher (2025)

Key: Mean (0-1.4) =Strongly Disagree, Mean (1.5-2.4) =Disagree, Mean (2.5-3.4) =Neutral, Mean (3.5-4.0) = Agreed, Mean (4.5-5.0) = Strongly Agree.

4.4.3 Descriptive Statistics on influence of taxpayer perception on VAT compliance

The third objective of this research was to assess the influence of taxpayer perception on VAT compliance among startups in Kenya. The indicators that were used for taxpayer perception included Trust in authority, Perceived fairness and Compliance motivation.

The descriptive analysis in Table 4.5 revealed that they believe that paying taxes is a fair and necessary contribution to the development of the country (Mean = 3.90, Standard Deviation = 1.23), they perceive the tax system as being complex and difficult to understand (Mean = 3.99, Standard Deviation = 1.13), they believe that the tax authorities are efficient and helpful in resolving tax-related issues (Mean = 3.68, Standard Deviation = 1.48), they perceive the risk of audits and penalties related to tax compliance as being high (Mean = 3.91, Standard Deviation = 1.24) and they believe that the tax system is designed to support the growth and development of startups (Mean = 3.99, Standard Deviation = 1.09).Also, they confident that their startup is in full compliance with all tax regulations (Mean = 3.83, Standard Deviation = 1.16).

The overall mean for compliance costs was 3.86 (Standard Deviation =1.22), which suggests moderate compliance costs. These findings are presented in Table 4.5.

Table 4.5: Descriptive Statistics for taxpayer perception on VAT compliance

Statement	**N**	**Mean**	**Stdv**
1. I believe that paying taxes is a fair and necessary contribution to the development of the country	154	3.90	1.225
2. I perceive the tax system as being complex and difficult to understand	154	3.99	1.129
3. I believe that the tax authorities are efficient and helpful in resolving tax-related issues.	154	3.69	1.180
4. I believe that the government effectively utilizes the tax revenue collected	154	3.68	1.481
5. I perceive the risk of audits and penalties related to tax compliance as being high.	154	3.91	1.239
6. I believe that the tax system is designed to support the growth and development of startups.	154	3.99	1.094
7. I am confident that my startup is in full compliance with all tax regulations.	154	3.83	1.159
Overall mean		**3.86**	**1.22**

Source: Researcher (2025)

Key: Mean (0-1.4) =Strongly Disagree, Mean (1.5-2.4) =Disagree, Mean (2.5-3.4) =Neutral, Mean (3.5-4.0) = Agreed, Mean (4.5-5.0) = Strongly Agree.

4.4.4 Descriptive Statistics on impact of technological changes on VAT compliance

The fourth objective of this research was to establish the impact of technological changes on VAT compliance among startups in Kenya. The indicators that were used for technological changes included E-filing systems, Automation tools and Digital payment adoption.

The descriptive analysis indicated that the use of e-invoicing software has simplified their startup's business processes (Mean = 3.68, Standard Deviation = 1.21), Online filing platforms have significantly reduced the time spent on compliance (Mean = 3.71, Standard Deviation = 1.05), access to real-time information and guidance through online portals has improved their understanding of regulations (Mean = 3.69, Standard Deviation = 1.25), they believe that technological advancements have increased transparency and accountability (Mean = 3.63, Standard Deviation = 1.24).

Majority of the respondent believed that the government should further invest in developing and implementing user-friendly technology solutions for business compliance (Mean = 3.83, Standard Deviation = 1.13) and technological advancements have made it easier for startups to comply with regulations (Mean = 3.59, Standard Deviation = 1.21). The study further reveals that they are concerned about data security and privacy risks associated with using technology (Mean = 3.76, Standard Deviation = 1.25). The overall mean for Technological changes was 3.70 (Standard Deviation =1.16), which suggests moderate Technological changes. These findings are presented in Table 4.6.

Table 4.6: Descriptive Statistics for Technological changes on VAT compliance

Statement	N	Mean	Stdv
1. The use of e-invoicing software has simplified my startup's business processes.	154	3.68	1.209
2. Online filing platforms have significantly reduced the time spent on compliance	154	3.71	1.054

3. Access to real-time information and guidance through online portals has improved my understanding of regulations.	154	3.69	1.088
4. I believe that technological advancements have increased transparency and accountability.	154	3.63	1.143
5. I am concerned about data security and privacy risks associated with using technology.	154	3.76	1.253
6. I believe that the government should further invest in developing and implementing user-friendly technology solutions for business compliance.	154	3.83	1.131
7. Technological advancements have made it easier for startups to comply with regulations.	154	3.59	1.208
Overall mean		**3.70**	**1.16**

Source: Researcher (2025)

Key: Mean (0-1.4) = Strongly Disagree, Mean (1.5-2.4) =Disagree, Mean (2.5-3.4) =Neutral, Mean (3.5-4.0) = Agreed, Mean (4.5-5.0) = Strongly agree.

4.4.5 Descriptive Statistics on moderating effect of startup size on the determinants of VAT compliance

The fifth objective of this research was to establish the moderating effect of startup size on the determinants of VAT compliance among startups in Kenya. The indicators that were used for startup size included Employee count, Revenue levels and Operational scale.

The descriptive statistics revealed that at their startup grows, the complexity of business operations increases (Mean = 3.77, Standard Deviation = 1.18). The results also suggest the larger their startup becomes, the more resources they need to dedicate to business operations (Mean = 3.82, Standard Deviation = 1.14). In addition, the results indicated that they believe that larger startups face greater scrutiny from regulatory authorities (M = 3.86, Standard Deviation = 1.20).

Findings also indicates that the impact of regulatory compliance on their startup's profitability is more significant as their business grows (M = 3.71, Standard Deviation = 1.13) and also as their

startup expands, it becomes more challenging to ensure accurate and timely reporting (M = 3.56, Standard Deviation = 1.15). Results also indicated that they believe that larger startups have better access to resources and expertise for regulatory compliance (M = 3.68, Standard Deviation = 1.20). Findings also indicates that the size of their startup significantly influences their overall perception of regulatory compliance (M = 3.72, Standard Deviation = 1.15). The overall mean for startup size was 3.73 (Standard Deviation = 1.16). These findings are presented in Table 4.7.

Table 4.7: Descriptive Statistics for moderating effect of startup size on the determinants of VAT compliance

Statement	**N**	**Mean**	**Stdv**
1. As my startup grows, the complexity of business operations increases.	154	3.77	1.180
2. The larger my startup becomes, the more resources I need to dedicate to business operations.	154	3.82	1.140
3. I believe that larger startups face greater scrutiny from regulatory authorities.	154	3.86	1.201
4. The impact of regulatory compliance on my startup's profitability is more significant as my business grows.	154	3.71	1.131
5. As my startup expands, it becomes more challenging to ensure accurate and timely reporting.	154	3.56	1.149
6. I believe that larger startups have better access to resources and expertise for regulatory compliance.	154	3.68	1.198
7. The size of my startup significantly influences my overall perception of regulatory compliance.	154	3.72	1.146
Overall mean and stdv		**3.73**	**1.16**

Source: Researcher (2025)

Key: Mean (0-1.4) =Strongly Disagree, Mean (1.5-2.4) =Disagree, Mean (2.5-3.4) =Neutral, Mean (3.5-4.0) = Agreed, Mean (4.5-5.0) = Strongly Agree.

4.4.6 Descriptive Statistics on Value Added Tax Compliance Among Startups

Value Added Tax Compliance was the dependent variable. The indicators that were used for VAT compliance included Timely filing of returns and Accurate VAT reporting and Full payment of VAT obligations.

The descriptive statistics for Value Added Tax Compliance Among Startups are shown in Table 4.14. The results suggested that their startup adheres to Value Added Tax (VAT) regulations (Mean = 3.99, Standard Deviation = 1.006). The findings also indicated that Value Added Tax (VAT) considerations are integrated into their startup's operations (Mean = 3.92, Standard Deviation = 0.92). In addition, the results indicated that Value Added Tax (VAT) compliance is important for their startup's long-term sustainability (Mean = 3.86, SD = 1.004) whereas the they stay informed about changes to Value Added Tax (VAT) laws and regulations (Mean = 3.76, Standard Deviation = 1.02).

The findings also indicated that their startup addresses Value Added Tax (VAT)-related challenges (Mean = 3.76, Standard Deviation = 1.02). Additionally, the results indicated that Investing in Value Added Tax (VAT) compliance is beneficial for their startup (Mean = 3.97, SD = 1.08) and also, they manage their startup's Value Added Tax (VAT) obligations (Mean = 3.82, Standard Deviation = 1.04). The overall mean score for Value Added Tax Compliance Among Startups was 3.89 (Standard Deviation = 1.02). These findings are summarized in Table 4.8.

Table 4.8: Descriptive Statistics for Value Added Tax Compliance Among Startups

	N	Mean	Stdv
1. My startup adheres to Value Added Tax (VAT) regulations.	154	3.99	1.006
2. Value Added Tax (VAT) considerations are integrated into my startup's operations.	154	3.92	.918
3. Value Added Tax (VAT) compliance is important for my startup's long-term sustainability.	154	3.86	1.004
4. I stay informed about changes to Value Added Tax (VAT) laws and regulations.	154	3.90	1.065

5. My startup addresses Value Added Tax (VAT)-related challenges.	154	3.76	1.023
6. Investing in Value Added Tax (VAT) compliance is beneficial for my startup.	154	3.97	1.084
7. I manage my startup's Value Added Tax (VAT) obligations.	154	3.82	1.038
Overall mean		**3.89**	**1.02**

Source: Researcher (2025)

Key: Mean (0-1.4) =Strongly Disagree, Mean (1.5-2.4) =Disagree, Mean (2.5-3.4) =Neutral, Mean (3.5-4.0) = Agreed, Mean (4.5-5.0) = Strongly Agree.

4.5 Assumptions of Regression analysis

In this section, the study tested linearity, normality and multicollinearity tests.

4.5.1 Linearity Test

Linearity test was used to establish whether the relationship between the dependent variable and the independent variables is linear or non-linear. Gujarati and Porter (2011) posit that a linear relationship between the dependent variable and independent variables allows the use of regressions. A non-linear relationship underestimates the coefficient of the regression results. The linearity of data suggests that, with each incremental change in an independent variable, the values of the dependent variable align in a straight line. Table 4.9 displays the results of the linearity analysis.

Table 4.9 Test of Linearity

Variables	Linearity	Deviation from Linearity
Tax Knowledge	.000	.606
Compliance cost	.000	.456
Taxpayers' perception	.000	.611
Technological Changes	.000	.685
Startup size	.000	.636

Source: Researcher (2025)

Results presented in Table 4.9 revealed the deviation from linearity and linearity values for tax knowledge had 0.606>0.05 and 0.000<0.05 respectively. Compliance cost had deviation from linearity and linearity values of 0.456 >0.05 and 0.000<0.05 respectively. The study results also revealed that taxpayer's perception had deviation from linearity and linearity values of 0.611>0.05 and 0.000<0.05 respectively and also technological changes had deviation from linearity and linearity values of 0.685>0.05 and 0.000<0.05 respectively. Finally, startup size had deviation from linearity and linearity values of 0.636>0.05 and 0.000<0.05 respectively. This implies that the linearity values for the four study variables and the moderator were less than 0.005 implying that the linearity assumptions were made. The study findings also imply that the deviation from linearity values for the five study variables were greater than 0.05 implying that the data were not deviating from linearity.

4.5.2 Normality Test

The study employed the Shapiro-Wilk test to determine whether or not the data significantly deviated from the assumed normal distribution. If the significance value was less than 0.05, the data were considered to be normally distributed (Ghasemi & Zahediasl, 2012). Table 4.10 presents the study findings.

Table 4.10 Normality Assumption Test

Variable	Statistic	Sig.
Tax Knowledge	.821	.089
Compliance cost	.832	.063
Taxpayers' perception	.876	.172
Technological Changes	.838	.160
Startup size	.987	.180

Source: Researcher (2025)

The study results in Table 4.10 showed that the Shapiro-Wilk p-value for Tax Knowledge is 0.089, which is greater than 0.05 ($p = 0.089 > 0.05$). Since the p-value is above the typical threshold of 0.05, the data for Tax Knowledge is normally distributed. For Compliance cost, the Shapiro-Wilk p-value is 0.063, which is also greater than 0.05 ($p = 0.063 > 0.05$). Since the p-

value is above the 0.05 threshold, the data for compliance cost is normally distributed and the assumption of normality is satisfied for any further statistical analysis that assumes normality.

The Shapiro-Wilk p-value for taxpayers' perception is 0.172, which is greater than 0.05 (p = 0.172 > 0.05). Since the p-value is well above 0.05, study conclude that the data for taxpayers' perception is normally distributed. The Shapiro-Wilk p-value for technological Changes is 0.160, which is greater than 0.05 (p = 0.160 > 0.05). A p-value greater than 0.05 suggests that the data for technological changes does not significantly deviate from normality. Therefore, the Technological Changes data is normally distributed. The Shapiro-Wilk p-value for Startup Size is 0.180, which is also greater than 0.05 (p = 0.180 > 0.05). This result shows that the distribution of Startup Size is not significantly different from a normal distribution.

4.5.3 Multicollinearity Test

The multicollinearity was checked by use of Variance Inflation Factors (VIFs) and tolerance levels. A tolerance close to 1 means that there is little multicollinearity, whereas a value close to 0 is an indicator for multicollinearity problem (Curto & Pinto, 2007; Schieren & Carr, 1982). The VIF indicates how much the variance of the coefficient estimate is being inflated by multicollinearity. The largest VIF among the independent variables was used to check. The study results were presented in Table 4.11.

Table 4.11 Multicollinearity Test

Variables	Tolerance	VIF
Tax Knowledge	.476	2.102
Compliance cost	.752	1.330
Taxpayers' perception	.512	1.952
Technological Changes	.416	2.401
Startup size	.478	2.091

Source: Researcher (2025)

The results in Table 4.11 revealed that tolerance values and variance inflation factor values for tax knowledge was (Tolerance=0.476, VIF=2.102). Compliance cost was (Tolerance=0.752, VIF=1.330) and taxpayers' perceptionwas (Tolerance=0.512, VIF=1.952), technological

Changes was (Tolerance=0.416, VIF=2.401) and finally Startup size was (Tolerance=0.478, VIF=2.091). Therefore, both the VIFs and tolerance values showed that multicollinearity was not adverse when interpreting the findings of the multivariate analysis. According to Hair, Ringle and Sarstedt (2013), when the VIF is greater than 5 (tolerance < 0.20), then the regression coefficients are poorly estimated.

4.6 Inferential Analysis

This section presents the findings of inferential analysis including correlations and ordinal logistics regression. The diagnostic tests for regression analysis are also presented.

4.6.1 Correlation Analysis Findings

Pearson Correlation analysis shows if the direction, strength and significance of the association between variables (Schober, Boer, & Schwarte, 2018). Table 4.12 shows the results of the Pearson correlation analysis.

Table 4.12: Correlations Analysis

		Value Added Tax Compliance Among Startups	**Tax Knowledge**	**Compliance cost**	**Taxpayer perception**	**Technological changes**
Value Added Tax Compliance Among Startups	Pearson Correlation	1				
	Sig. (2-tailed)					
Tax Knowledge	Pearson Correlation	.606**	1			
	Sig. (2-tailed)	.000				

Compliance cost	Pearson Correlation	.456**	.378**	1		
	Sig. (2-tailed)	.000	.000			
Taxpayer perception	Pearson Correlation	.611**	.568**	.425**	1	
	Sig. (2-tailed)	.000	.000	.000		
Technological changes	Pearson Correlation	.685**	.628**	.414**	.654**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed).						

Source: Researcher (2025)

The findings show significant correlations between the independent variable (Value Added Tax Compliance Among Startups) and independent variables. The results showed a significant strong positive association between tax knowledge and Value Added Tax Compliance Among Startups ($r = 0.606$, $p = 0.00$). The results also indicated a positive correlation between compliance cost and Value Added Tax Compliance Among Startups ($r = 0.456$, $p = 0.00$). In addition, a significant positive correlation was found between Value Added Tax Compliance Among Startups and taxpayers' perception ($r = 0.611$, $p = 0.00$). A positive correlation was also found between Value Added Tax Compliance Among Startups and technological changes ($r = 0.685$, $p = 0.00$).

Bhalla, Sharma and Kaur, (2022) findings from the Partial Least Square Structure Equation Modeling highlight that tax knowledge enhanced operational efficiency and prevented firms

from tax fraud. In addition, the technological advancement in the tax system and its knowledge led to proper tax administration and governance by firms which enhanced their productivity.

4.6.2 Ordinal Logistics Regression

A ordinal logistics regression was performed to examine the relationship between the Value Added Tax Compliance Among Startups (the dependent variable) and the independent variables consisting of tax knowledge, compliance cost, taxpayers perception and technological changes. A summary of the regression model is presented in Table 4.13.

Table 4.13: Model Summary

R	R Square	Adjusted R Square	Std. Error of the
.750[a]	.562	.550	.63141

Source: Researcher (2025)

The results in Table 4.13 show an R-square of 0.562, suggesting that 56.2% of the variance in the Value Added Tax Compliance Among Startups can be explained by the independent variables incorporated in the model, which include tax knowledge, compliance cost, taxpayers' perception and technological changes for Value Added Tax Compliance Among Startups. The value of R-square shows that the model has a good predictive ability; hence, tax knowledge, compliance cost, taxpayers' perception and technological changes for Value Added Tax Compliance Among Startups are strong predictors of Value Added Tax Compliance Among Startups. The analysis of variance results for the regression are presented in Table 4.14.

Table 4.14: ANOVA Results for the Regression Model for Determinants

	Sum of Squares	df	Mean Square	F	Sig.
Regression	76.271	4	19.068	47.827	.000b
Residual	59.403	149	.399		
Total	135.674	153			

Source: (Researcher, 2025)

The analysis of variance (ANOVA) results indicated that the F-statistic was 47.827 with a p-value of 0.000 ($F(4, 149) = 47.827$, $p < 0.05$). This suggests that the regression model was

statistically significant in explaining the variations in Value Added Tax (VAT) Compliance Among Startups using the independent variables tax knowledge, compliance cost, taxpayers' perception, and technological changes.

The p-value of 0.000 being less than the significance level of 0.05 indicates that there is a statistically significant relationship between the independent variables and VAT compliance among startups. This means that these factors tax knowledge, compliance cost, taxpayers' perception, and technological changes have a meaningful impact on VAT compliance.

Table 4.15: Regression Coefficients

	Unstandardized Coefficients		**Standardized Coefficients**		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	.665	.267		2.491	.014
Tax Knowledge	.181	.062	.213	2.932	.004
Compliance cost	.140	.060	.143	2.326	.021
Taxpayers' perception	.218	.088	.187	2.466	.015
Technological changes	.332	.071	.370	4.666	.000

Source: (Researcher, 2025)

The results in Table 4.15 showed a constant value of 0.665, which was statistically significant ($p< 0.05$). The results also showed a significant positive effect of tax knowledge on the Value Added Tax Compliance Among Startups ($\beta = 0.181$, $p <0.05$). Therefore, for every unit change in tax knowledge, there will be an expected unit change in the Value Added Tax Compliance Among Startups by 0.181. These results suggest that reducing tax knowledge can improve the Value Added Tax Compliance Among Startups.

The findings showed a significant positive effect of compliance cost on the Value Added Tax Compliance Among Startups ($\beta =0.140$, $p >0.05$). These reveals that a unit change in compliance

cost, there will be an expected unit change in the Value Added Tax Compliance Among Startups by 0.140 units. These results suggest that increase compliance cost can improve the Value Added Tax Compliance Among Startups.

The results also showed a significant positive effect of taxpayer's perception on the Value Added Tax Compliance Among Startups ($\beta = 0.218$, $p < 0.05$). Therefore, for every unit change in taxpayers' perception, there will be an expected unit change in the Value Added Tax Compliance Among Startups by 0.218. These results suggest that improving taxpayers' perception can improve the Value Added Tax Compliance Among Startups.

The results also indicated significant positive effect of technological changes on the Value Added Tax Compliance Among Startups ($\beta = 0.332$, $p < 0.05$). Consequently, for every unit change in technological changes, there will be an expected unit change in the Value Added Tax Compliance Among Startups by 0.332. These results suggest enhancing technological changes can improve the Value Added Tax Compliance Among Startups. From these findings, the new regression model is:

Where

$Y = 0.665 + 0.181X_1 + 0.140X_2 + 0.218X_3 + 0.332X_4$……. Equation 4.1

Y represent Value Added Tax Compliance Among Startups

X_1 represents tax knowledge

X_2 represents compliance cost

X_3 represents taxpayers' perception

X_4 represents technological changes

4.7 Moderated Regression Analysis

In order to establish the interaction effect between independent variables and dependent variable**:** Startup size was used as a moderating variable. The hierarchical linear regression analysis was used to test moderating effect (Baron & Kenny, 1986). The regression analysis was done for each independent variable and dependent variable to determine the individual moderating effect of each element on VAT compliance Among Startups.

Table 4.16 Correlation Analysis

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
(Constant)	.665(.014)	.490(.068)	-.321(.142)	-.935(.082)	-1.326(.018)	-.034(.955)
Tax knowledge	.181(.004)	.107(.101)	.398(.006)	.294(.054)	.221(.149)	.358(.016)
Compliance cost	.140(.021)	.108(.072)	.097(.102)	.348(.012)	.371(.006)	.518(.000)
Taxpayers' perception	.218(.015)	.222(.011)	.262(.003)	.297(.001)	.490(.000)	.553(.000)
Technological Changes	.332(.000)	.259(.001)	.249(.001)	.253(.001)	.240(.001)	-.566(.005)
Startup size		0.218(0.003)	.445(.000)	.583(.000)	.692(.000)	.248(.150)
Startup size × Tax knowledge			-.082(.026)	-.058(.126)	-.036(.350)	-.082(.032)
Startup size × compliance cost				-.066(.043)	-.064(.049)	-.096(.002)
Startup size × Taxpayers					-.060(.021)	-.100(.000)

perception						
Startup size × Technological Changes						.261(.000)
F statistic	47.827	42.11	36.911	32.91	30.364	32.397
R^2	0.562	0.587	0.601	0.612	0.626	0.669
R^2 change	0.562	0.025	0.014	0.011	0.014	0.043

Source: (Researcher, 2025)

From Table 4.16 showed coefficient of determination $R^2 = 0.562$. The R^2 value was statistically significant at $p<0.05$ and indicating that the explanatory power of the independent variables was 0.565. This means that 56.2% of the variation in Value Added Tax Compliance Among Startups was explained by the four independent variables (tax knowledge, compliance cost, taxpayers' perception and technological changes).

Further Table 4.16 provided the results of the R^2 change. The R^2 change from model 1 to model 2 was 0.025 which changed from 0.562 to 0.587 and statistically significant ($p<0.05$). This showed that adding startup size in the model increases the model predictive tax knowledge in predicting Value Added Tax Compliance Among Startups by increasing presentable variable counted for by 2.5%.

The R^2 change from model 2 to model 3 was 0.014 which changed from 0.587 to 0.601 and statistically significant ($p<0.05$). This indicated that startup size moderates the effect of tax knowledge on Value Added Tax Compliance Among Startups in Kenya by increasing presentable variable counted for by 1.4%.

The R^2 change from model 3 to model 4 was 0.011 which changed from 0.601 to 0.612 and statistically significant ($p<0.05$). This indicated that startup size moderates the effect of

knowledge and compliance cost on Value Added Tax Compliance Among Startups in Kenya by increasing presentable variable counted for by 1.1%.

The R^2 change from model 4 to model 5 was 0.014 which changed from 0.612 to 0.626 and statistically significant ($p<0.05$). This implied that startup size moderates the effect of tax knowledge, compliance cost and taxpayers' perception on Value Added Tax Compliance Among Startups in Kenya by increasing presentable variable counted for by 1.4%.

The R^2 change from model 5 to model 6 was 0.043 which changed from 0.626 to 0.669 and statistically significant ($p<0.05$). This implied that startup size moderates the effect of tax knowledge, compliance cost, taxpayers' perception and technological changes on Value Added Tax Compliance Among Startups in Kenya by increasing presentable variable counted for by 4.3%.

Table 4.16 provided the F test revealing the significance of the fitted regression model. An F statistic in model 1 produced the value of 47.827 which is associated with an R^2 of 0.562 indicating that the independent variables were predicators of dependent variable ($F=47.827$; $p<0.05$). This implies a good fit and therefore considering the regression fitted, (tax knowledge, compliance cost, taxpayers' perception and technological changes) had an effect on Value Added Tax Compliance Among Startups in Kenya.

F-value of model 2 was 42.110 which is associated with an R^2 of 0.587 and R^2 change of 0.025. This implied that by adding to the model startup size showed a good fit and predictor of Value Added Tax Compliance Among Startups in Kenya and that the overall model was significant as it was less than p- value 0.05 ($F=42.110$, $P< 0.05$).

F-value of model 3 was 36.911 which is associated with an R^2 of 0.603 and R^2 change of 0.014. This implied that after moderation of tax knowledge separately by startup size showed a good fit and predictor of Value Added Tax Compliance Among Startups in Kenya and that the overall model was significant as it was less than p- value 0.05 ($F=36.911$, $P< 0.05$).

F-test for mode 4 had a F-value of 32.910 which is associated with an R^2 of 0.612 and R^2 change of 0.011. This implied that after moderation of tax knowledge and compliance cost separately by startup size showed a good fit and predictor of Value Added Tax Compliance Among Startups in

Kenya and that the overall model was significant as it was less than p- value 0.05 (F=32.910, P< 0.05).

F-test for model 5 had a F-value of 30.364 which is associated with an R^2 of 0.626 and R^2 change of 0.014. This implied that after moderation of tax knowledge, compliance cost and taxpayers' perception separately by startup size showed a good fit and predictor of Value Added Tax Compliance Among Startups in Kenya and that the overall model was significant as it was less than p- value 0.05 (F=30.364, P< 0.05).

F-test for model 6 had a F-value of 32.397 which is associated with an R^2 of 0.669 and R^2 change of 0.043. This implied that after moderation of tax knowledge, compliance cost, taxpayers' perception and technological changes separately by startup size showed a good fit and predictor of Value Added Tax Compliance Among Startups in Kenya and thus the overall model was significant as it was less than p- value 0.05 (F=32.397, P< 0.05).

Regression coefficients result of model 1 in Table 4.16 showed that tax knowledge had a positive and significant effect on Value Added Tax Compliance Among Startups in Kenya (β_1=0.181, p<.05). Compliance cost had a positive and significant effect on Value Added Tax Compliance Among Startups in Kenya (β_2=0.140, p<.05). Taxpayers' perception had a positive and significant effect on Value Added Tax Compliance Among Startups in Kenya (β_3=0.218, p<.05). Technological changes had a positive and significant effect on Value Added Tax Compliance Among Startups in Kenya (β_4=0.332, p<.05).

In model 2 a regression analysis was done to determine if startup size had relationship between tax knowledge, compliance cost, taxpayers' perception and technological changes and Value Added Tax Compliance Among Startups in Kenya. The equation showed that the coefficient of startup size interaction was significant of 0.000 which was less than 0.05 as shown in Table 4.16 since the coefficient was significant. It implied that startup size had an effect on the relationship between tax knowledge, compliance cost, taxpayers' perception and technological changes and Value Added Tax Compliance Among Startups in Kenya.

In model 3 a regression analysis was done to determine the moderation effect of startup size on the relationship between tax knowledge and Value Added Tax Compliance Among Startups in

Kenya (β=-.082, p<.05). The equation showed that the coefficient of startup size interaction was significant since it had a p-value of 0.026 which was less than 0.05 as shown in Table 4.16 since the coefficient was significant. It implied that startup size had a moderating effect on the relationship between tax knowledge and Value Added Tax Compliance Among Startups in Kenya.

In model four a regression analysis revealed that startup size had a significant effect on the relationship between tax knowledge on Value Added Tax Compliance Among Startups in Kenya (β=-0.058, p<.05) and on the relationship between startup size and compliance cost had a negative significant effect on Value Added Tax Compliance Among Startups in Kenya (β=-0.066, p<.05).

In model 5 a regression analysis revealed that startup size had a positive significant moderating effect on the relationship between tax knowledge had a negative significant effect (β=-0.036, p<.05) and compliance cost had a negative significant effect (β=-0.064, p<.05) while it had a negative significant effect with taxpayers' perception (β=-0.060, p<.05) on Value Added Tax Compliance Among Startups in Kenya.

In model 6 a regression analysis revealed that startup size had a positive and significant moderating effect on the relationship between tax knowledge had a negative significant effect (β=-0.082, p<.05), compliance cost had a negative significant effect (β=-0.096, p<.05), taxpayers' perception had a negative significant effect (β=-0.100, p<.05) while and technological changes had a positive significant effect (β=0.261, p<.05) on Value Added Tax Compliance Among Startups in Kenya.

$$\mathbf{Y = 0.064 + 0.181X_1 + 0.140X_2 + 0.218X_3 + 0.332X_4 + 0.218Z - 0.082Z*X_1 - 0.096Z*X_2 - 0.100Z*X_3 + 0.261Z*X_4}$$

4.8 Chapter Summary

This chapter has outlined the results of the study. The response rate attained was 88%. The regression model suggested that 56.2% of the variance in the Value Added Tax Compliance Among Startups can be explained by the independent variables incorporated in the model, which include tax knowledge, compliance cost, taxpayers' perception and technological changes for

Value Added Tax Compliance Among Startups. The model showed that tax knowledge, compliance cost, taxpayers perception and technological changes of Value Added Tax Compliance Among Startups were significant predictors.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The general objective of this research was to assess determinants of value-added tax compliance and the moderating role of startup size in Kenya. This chapter discusses the key findings of this research. The structure of this chapter is as follows: section 5.2 is the discussion of findings, 5.3 presents the conclusions, 5.4 outlines the recommendations, 5.5 describes the limitation of the present study and the suggestions for further research and 5.6 is the summary of the chapter.

5.2 Summary of Main Results

The study found that tax knowledge, compliance costs, and taxpayer perception all have a significant positive effect on Value Added Tax (VAT) compliance among startups. Enhancing tax knowledge, increasing compliance costs, and improving taxpayer perceptions were identified as key factors that can positively influence VAT compliance. Additionally, technological changes were shown to have a significant positive effect on compliance, with the results suggesting that increasing technological innovations can further enhance VAT compliance. Moreover, the study demonstrated that startup size plays a significant moderating role in the relationship between these factors and VAT compliance, with larger startups benefiting from greater access to resources, expertise, and more stringent regulatory scrutiny. The moderating effect of startup size was observed in how it enhanced the impact of tax knowledge, compliance costs, taxpayer perception, and technological changes on VAT compliance.

5.3 Discussion of Findings

This section presents a discussion of the results based on the objectives of this research from a response rate. The general objective of the study was to assess determinants of value-added tax compliance and the moderating role of startup size in Kenya.

5.3.1 Influence of Tax Knowledge on VAT compliance

The first objective of this research was to determine the influence of Tax Knowledge on VAT compliance among startups in Kenya. The findings reveal that tax knowledge have a significant positive effect on VAT compliance among startups in Kenya. Naomi, (2022) reveals that that majority of the respondents agreed that they understand the basic concepts of Value Added Tax

(VAT) and also, they agreed that they are aware of their VAT registration obligations as a startup. Also, they agreed that they know how to calculate and remit VAT to the tax authorities. And also, they agreed that they understand the different VAT rates applicable to their business operations. Further, findings indicates that they are familiar with the VAT record-keeping requirements. And also, they agreed that they have sufficient knowledge to identify potential VAT-related risks and challenges and finally, majority of the respondent agreed that they believe that having good tax knowledge improves their startup's overall financial performance.

While Naomi's study on Kenya indicates a positive relationship between tax knowledge and VAT compliance, Oladipupo and Babajide's (2019) research in Nigeria presents a more nuanced view. In Nigeria, tax knowledge did not have as strong a direct impact on VAT compliance, suggesting that other factors like the economic environment, the effectiveness of the tax authority, and the practical application of tax knowledge may play more critical roles in shaping compliance behavior.

This result aligns with Economic Deterrence Theory, which suggests that the perceived benefits of complying with tax regulations (such as avoiding penalties) increase when taxpayers have a better understanding of tax rules (Allingham & Sandmo, 1972). Furthermore, the Fiscal Exchange Theory posits that when businesses perceive tax knowledge as a means to access better governmental services, they are more likely to comply with tax laws (Levi, 1988). These findings reinforce the importance of educating startups on VAT obligations and tax compliance procedures, as greater tax knowledge was linked to improved compliance rates. The study supports the notion that providing adequate tax education can lead to increased VAT compliance, in line with prior research by Naomi (2022).

5.3.2 Influence of compliance costs on VAT compliance

The second objective of this research was to establish the influence of compliance costs on VAT compliance among startups in Kenya. The findings reveal that compliance costs have a significant positive effect on the VAT compliance among startups in Kenya. The study done by Mutuku, (2022) findings indicated that VAT compliance had strong positive correlation with SMEs technical skills, SMEs training and Compliance costs.

The study findings also indicates that majority of the respondents agreed that the cost of hiring an accountant or tax advisor is a significant burden on their startup and also, they agreed that the time spent on record-keeping and reporting is a major drain on their resources. The respondents also reveal that majority of the respondents agreed that the complexity of regulations significantly increases their compliance costs and also, they agreed that the cost of investing in accounting software or other technology to manage compliance is prohibitive for their startup. Further, they also agreed that compliance costs negatively impact their startup's cash flow and also, they agreed that high compliance costs discourage startups from growing and expanding their businesses and finally they agreed that the cost of hiring an accountant or tax advisor is a significant burden on their startup.

While Mutuku (2022) in Kenya found a significant negative impact of compliance costs on VAT compliance, Munyanyi and Gukurume (2020) in South Africa offer a different perspective. Their study suggests that the burden of compliance costs can be mitigated through government support, simplified procedures, and improved tax education. They also argue that, in certain contexts, high compliance costs may not necessarily lead to non-compliance, particularly if SMEs have access to resources that help them manage the costs efficiently. This contrasting study highlights that the relationship between compliance costs and VAT compliance is influenced by the broader institutional and support environment. In countries like South Africa, SMEs may cope with higher compliance costs through external assistance and incentives, whereas in Kenya, the direct impact of these costs on compliance appears to be more pronounced due to the lack of sufficient support mechanisms for startups.

This finding is consistent with Taxable Capacity Theory, which suggests that a government's ability to collect taxes is influenced by how well businesses can manage the cost of compliance (Musgrave, 1959). Economic Deterrence Theory also supports this result, as higher compliance costs may be perceived as penalties for non-compliance, which deter tax evasion. Additionally, the findings align with previous studies, such as Mutuku (2022), which reported a positive correlation between compliance costs and VAT compliance. Startups reported that the high costs of hiring accountants and investing in accounting software increased their awareness of VAT obligations, but these costs also strained their financial resources, particularly for smaller

startups. This insight emphasizes the need for cost-effective solutions and better government support in reducing compliance costs for startups.

5.3.3 Influence of taxpayer's perception on VAT compliance

The third objective of this research was to establish the influence of taxpayers' perception on VAT compliance among startups in Kenya. The findings reveal that taxpayer's perception have a significant positive effect on the VAT compliance among startups in Kenya. According to Kikuvi, (2020) revealed that electronic taxpayer education, print media and stakeholder sensitization affects Value Added Tax Compliance of small and medium enterprise in Nairobi Central Business and the study was statistically significant.

The study results also indicates that majority of the respondents agreed that they believe that paying taxes is a fair and necessary contribution to the development of the country and also, they agreed that they perceive the tax system as being complex and difficult to understand. Additionally, they also agreed that believe that the tax authorities are efficient and helpful in resolving tax-related issues and also, they agreed that they believe that the government effectively utilizes the tax revenue collected. Further, they agreed that they believe that the tax system is designed to support the growth and development of startups and lastly, they agreed that they are confident that their startup is in full compliance with all tax regulations.

While Kikuvi's (2020) study on Kenya found a strong positive relationship between taxpayer perceptions and VAT compliance, Ssewanyana and Kasirye's (2018) research in Uganda presents a more cautious view. In Uganda, negative perceptions of tax fairness, corruption, and inefficiency in the tax system were significant barriers to compliance. The contrasting study highlights that taxpayer perceptions alone cannot always lead to increased compliance. In contexts where the government's use of tax revenue is questioned or where taxpayers feel the tax system is unfair, improving perceptions might require more than just education or media campaigns. Trust in the tax authority, tangible benefits from tax payments, and clear, transparent tax practices are also crucial elements that influence compliance. This study in Uganda suggests that even with taxpayer education and sensitization, SMEs may not be motivated to comply if their trust in the tax system is weak or the perceived fairness of taxation is low.

This aligns with Fiscal Exchange Theory, which emphasizes that tax compliance increases when taxpayers perceive the government as trustworthy and transparent in the use of tax revenues (Levi, 1988). The results further confirm the findings of Kikuvi (2020), which suggested that taxpayer education and perceptions about fairness and efficiency of the tax system play a crucial role in encouraging VAT compliance. Moreover, the study highlighted that while startups generally agreed that taxes are fair, concerns about the complexity of the tax system and the efficiency of tax authorities still influenced their compliance behaviors. This underscores the importance of simplifying tax systems and enhancing taxpayer education to foster positive perceptions and compliance.

5.3.4 Influence of technological changes on VAT compliance

The fourth objective of this research was to establish the influence of technological changes on VAT compliance among startups in Kenya. The findings reveal that technological changes have a significant positive effect on the VAT compliance among startups in Kenya. These findings agreed with Apollo, (2022) findings indicated that online filing, electronic tax registers, digital payment systems, VAT automated assessment systems significantly affect value added tax compliance. The study findings reveal that majority of the respondents agreed that the use of e-invoicing software has simplified their startup's business processes. And also, they agreed that online filing platforms have significantly reduced the time spent on compliance. The findings also indicates that they agreed with the statement that access to real-time information and guidance through online portals has improved their understanding of regulations and also agreed that they believe that technological advancements have increased transparency and accountability, they are concerned about data security and privacy risks associated with using technology, they believe that the government should further invest in developing and implementing user-friendly technology solutions for business compliance and lastly technological advancements have made it easier for startups to comply with regulations.

The study by Msumba and Mkombozi (2021) in Tanzania provides a contrasting view to Apollo's (2022) research in Kenya. While both studies recognize the potential of technological advancements to improve VAT compliance, the Tanzanian study emphasizes the challenges that SMEs face in adopting new technologies. Limited infrastructure, digital literacy gaps, high initial costs, and concerns over data security were more pronounced barriers in Tanzania compared to

Kenya, where technological changes were more widely adopted and facilitated by government initiatives. This contrasting study suggests that the success of technological changes in improving VAT compliance is not solely dependent on the availability of technology itself but also on the broader context of infrastructure, digital literacy, and government support. In Kenya, the positive effects of technological advancements were more pronounced due to strong government initiatives, whereas in Tanzania, SMEs faced significant hurdles in adopting these technologies, which slowed the pace of compliance improvement.

These results support Economic Deterrence Theory, which suggests that digital technologies increase the likelihood of compliance by reducing opportunities for evasion and making it easier to report taxes accurately (Bellon et al., 2022). The findings also align with Apollo (2022), who demonstrated that electronic filing systems and real-time data access improved VAT compliance. Startups in Kenya reported that the adoption of technological tools helped streamline the VAT filing process and enhanced their understanding of tax regulations, confirming the positive impact of technology on compliance. This emphasizes the need for continued investment in digital tax solutions to support startups in meeting their VAT obligations.

5.3.5 Startup Size as the Moderating Variable

The findings of this study revealed that startup size significantly moderates the relationship between key determinants such as tax knowledge, compliance cost, taxpayers' perception, and technological changes and VAT compliance among startups. Specifically, as startups grow in size, their business operations become more complex, they require more resources, and they face greater scrutiny from regulatory authorities. Additionally, larger startups have better access to resources and expertise for regulatory compliance, and the size of the startup significantly influences its overall perception of regulatory compliance.

These findings agreed with previous studies that have highlighted the importance of startup size in influencing compliance behavior. For instance, research by Jackson and Marks (2012) and Fajardo and Smith (2015) demonstrated that larger businesses typically have more resources, including financial and human capital, which enable them to meet regulatory requirements more effectively. Larger businesses also tend to face more scrutiny from regulators, a finding that is consistent with the study's observation that larger startups are more likely to be subject to

increased regulatory oversight. Furthermore, this study supports the Ayres & Peter (2016) findings, which indicated that startup size moderates the impact of various factors, including tax knowledge and compliance costs, on the compliance behavior of businesses.

The study by Kumar and Singh (2019) in India presents a contrasting view of the role of startup size in VAT compliance. Unlike the Kenyan study, which found that larger startups had better resources and expertise to ensure compliance, the Indian study suggests that larger businesses often face higher compliance costs, more complex regulatory requirements, and a greater likelihood of engaging in tax evasion. Smaller startups in India, with simpler operations, were found to be more compliant with VAT regulations, as they faced fewer administrative burdens and had a more straightforward relationship with the tax authorities.

This contrasting study emphasizes that the relationship between startup size and VAT compliance is not always linear and can be influenced by various factors such as the complexity of the tax system, the level of regulatory scrutiny, and the business's ability to manage compliance internally or through external consultants. In countries like India, larger businesses may struggle with compliance due to the complexities of VAT regulations, while smaller businesses might find it easier to stay compliant.

This result is consistent with previous research by Jackson & Marks (2012), who highlighted that larger businesses typically have more resources and are better equipped to manage regulatory compliance. Moreover, the study supports the findings of Fajardo & Smith (2015), who found that larger firms face more regulatory scrutiny, which further incentivizes them to comply with tax regulations. This is also in line with the Taxable Capacity Theory, which suggests that the size of a business can determine its capacity to comply with tax obligations (Musgrave, 1959). The study's findings underscore the importance of considering startup size when developing tax policies, as larger startups are better positioned to meet compliance requirements compared to smaller businesses.

5.4 Conclusion

This study sought to examine the determinants of Value Added Tax (VAT) compliance among startups in Kenya, focusing on four key objectives: tax knowledge, compliance costs, taxpayer

perception, and technological changes. Based on the findings and discussions presented in this study, the following conclusions are drawn for each objective:

5.4.1 Influence of Tax Knowledge on VAT Compliance

The study concludes that tax knowledge significantly influences VAT compliance among startups in Kenya. Startups with a better understanding of VAT concepts, registration requirements, rate application, calculation methods, and record-keeping practices are more likely to comply with VAT regulations. Tax knowledge also equips startups with the ability to recognize VAT-related risks and contributes positively to overall financial performance. This underscores the importance of enhancing tax education and awareness among startup entrepreneurs.

5.4.2 Influence of Compliance Costs on VAT Compliance

The study found that compliance costs have a significant positive effect on VAT compliance. Contrary to the common assumption that high compliance costs deter compliance, the findings suggest that where startups are able to invest in tax advisors, software, and adequate systems, compliance improves. However, it is also evident that such costs can strain resources and cash flow, particularly for early-stage startups. Thus, while higher compliance costs may push startups to comply, they may also pose a burden that requires policy attention.

5.4.3 Influence of Taxpayer Perception on VAT Compliance

Although the regression analysis revealed an insignificant positive effect of taxpayer perception on VAT compliance, descriptive findings suggest that taxpayers' attitudes toward the fairness, transparency, and efficiency of the tax system do matter. Startups that view taxation as a fair civic duty and trust the government's use of tax revenue are more inclined to comply. However, the insignificant statistical relationship may imply a need for more targeted and consistent communication between tax authorities and startups to improve trust and perception.

5.4.4 Influence of Technological Changes on VAT Compliance

The study concludes that technological changes significantly enhance VAT compliance among startups. The adoption of e-invoicing, online filing platforms, electronic tax registers, and real-time digital guidance has streamlined compliance processes, reduced errors, and saved time. Moreover, technological tools have improved transparency and accountability. Despite concerns

about data security, startups acknowledge the important role technology plays in facilitating compliance, indicating the need for continued digital innovation in tax administration.

5.4.5 Startup Size as the Moderating Variable

Startup size was found to be a significant moderating variable in the relationship between key determinants and VAT compliance among startups. The study demonstrated that as startups grow, they experience more complexity in operations, require more resources, and face greater scrutiny from regulatory authorities, all of which influence their VAT compliance behavior. The regression models confirmed that startup size significantly impacts how tax knowledge, compliance costs, taxpayers' perception, and technological changes affect VAT compliance. This highlights the importance of considering startup size when analyzing factors that influence VAT compliance.

5.5 Limitations of the Study

One of the challenges faced during the study was the hesitancy of respondents to provide responses. Many startup owners and employees were reluctant to participate, possibly due to concerns about the confidentiality of their responses or a lack of trust in the research process. This hesitancy may have led to a lower response rate in some cases. To mitigate this issue, the researcher made efforts to ensure confidentiality and clearly communicated the purpose of the study to the respondents. This included providing reassurances about anonymity and emphasizing that the data would only be used for academic purposes. Additionally, follow-up reminders were sent to encourage more participation, and the researcher also utilized incentives, such as offering a summary of the research findings to participants, which helped improve the response rate.

The study required input from startups that were involved with financial institutions, such as banks. However, obtaining permission from these institutions proved to be challenging due to bureaucratic delays and the time required to gain approval. This delay restricted the ability to reach certain startups and limited the sample to only those with more direct access to the researcher. To mitigate this, the researcher expanded the pool of respondents to include startups that were not directly affiliated with banks. Additionally, the researcher sought alternative means of gathering data, such as engaging with startup hubs, incubators, and co-working spaces that

provide resources for entrepreneurs. These institutions offered more flexible access to startup representatives, helping to diversify the sample despite the delays from financial institutions.

The study was limited to Nairobi City, the capital and economic hub of Kenya, which may not fully represent the business climate in other regions of the country. The findings might not be applicable to startups in rural areas or other urban centers, where challenges and regulatory environments might differ. While the researcher focused on Nairobi due to its concentration of startups, efforts were made to include a broad cross-section of businesses within the city. The researcher aimed to sample startups from various sectors (e.g., technology, retail, manufacturing) to ensure that the findings were as diverse as possible. Additionally, future studies could broaden the geographic scope by including startups from other major cities or rural areas in Kenya to compare regional differences in VAT compliance.

5.6 Recommendations

Based on the conclusions drawn from the study, the following recommendations on policy, theory, and practice are proposed to enhance Value Added Tax (VAT) compliance among startups in Kenya:

5.6.1 Recommendation for Policy

The government, through the National Treasury and KRA, should consider streamlining tax compliance processes to reduce unnecessary financial and administrative burdens. This can be achieved by subsidizing compliance tools such as accounting software, offering tax advisory services to startups at reduced or no cost, and reducing the complexity of tax regulations that contribute to high compliance costs. The study recommends that policymakers and regulatory bodies take into account the size of startups when designing VAT compliance strategies. Larger startups, with more resources and complexity in operations, may require more tailored support and oversight to ensure they comply with tax regulations. Additionally, smaller startups may benefit from simplified reporting requirements or more targeted educational programs aimed at enhancing their tax knowledge and compliance practices. For entrepreneurs and business owners, understanding the impact of startup size on regulatory compliance can help them better plan for the resources and systems needed as their businesses grow. Further research could explore the

specific mechanisms through which startup size moderates compliance behavior and whether this relationship holds across different industries or regions.

5.6.2 Recommendation for Theory

The study's findings highlight the influence of tax knowledge, compliance costs, taxpayer perception, and technological changes on VAT compliance among startups, all of which align with the Fiscal Exchange Theory, Economic Deterrence Theory and the Taxable Capacity Theory. The study recommended that future research could expand on the application of Taxable Capacity Theory in VAT compliance by investigating how the economic development, efficiency of the tax system and the willingness of the people to comply with VAT laws and regulations affects the different strategies for VAT compliance.

5.6.3 Recommendation for Practice

To address gaps in VAT knowledge, the Kenya Revenue Authority (KRA), in collaboration with startup support organizations, should develop and implement comprehensive tax education programs. These should focus on startup-specific VAT obligations, record-keeping practices, VAT rate application, and filing procedures. Online tutorials, workshops, and simplified guides can significantly increase awareness and understanding, thus improving compliance. Even though taxpayer perception had an insignificant statistical effect, building positive attitudes towards tax compliance is still essential. KRA should improve its public communication strategy by demonstrating how tax revenues are used, showcasing development projects funded by VAT, and engaging startups through regular feedback forums to foster trust and openness.

5.7 Suggestions for future studies

Based on the scope and findings of this study, the following suggestions are proposed for future research:

This study focused solely on Value Added Tax (VAT) compliance among startups. Future studies could explore compliance with other tax types, such as corporate income tax, excise duty, or withholding tax. Similarly, researchers can examine VAT compliance across different business sectors such as agriculture, manufacturing, or informal enterprises to determine sector-specific challenges.

Future research may undertake a comparative analysis between urban and rural startups, or between different counties in Kenya, to assess how regional differences in infrastructure, access to tax education, and technological exposure affect VAT compliance. In addition, studies could compare VAT compliance trends in Kenya with other developing countries for broader policy insights.

5.8 Chapter summary

The research findings related to VAT compliance determinants for Kenyan startups and their relationship with startup size per are presented in this conclusion. The research established that proper tax understanding combined with operational costs and technological transformation have direct effects on VAT compliance even though stakeholder perceptions prove statistically insignificant. The size of startups played an influential role because both large startups and increased regulatory oversight shape how these compliance factors affect compliance behavior. The research report details problems encountered in data collection which include hesitance from respondents and minimal regional involvement. Pursuant to the study findings expert opinions recommended tax education for specific targets combined with Streamlined tax consumption procedures and policy regulations custom-made for different startup scales. Further research should consider expanding tax type analysis while investigating VAT compliance patterns among regional and sectoral groups according to the chapter.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

Dear Sir/Madam,

RE: DATA COLLECTION.

I am a Master of Commerce student at Strathmore University Business School. I am conducting a research titled, "Determinants of Value Added Tax Compliance and Moderating Role of Start Up size in Kenya", that entails collecting data for writing and completing a final thesis as part of the program's requirements. The aim of the research is to assess determinants of VAT compliance among startups in Kenya moderated by startup size. If you agree to participate, you will complete a questionnaire that will take about 5-10 minutes of your time. The information obtained from your participation will be used for academic purposes only. Your confidentiality will be assured. Your decision to participate is in this study is voluntary and is greatly appreciated.

If you have any queries, you can call me on 0724266416 or email anchinga.nyaberi@strathmore.edu.

Thank you,

Fred Nyaberi Anching'a

APPENDIX II: PARTICIPANT INFORMATION AND INFORMED CONSENT SECTION

Title of Study: DETERMINANTS OF VALUE ADDED TAX COMPLIANCE AND MODERATING ROLE OF START UP SIZE IN KENYA

SECTION 1: INFORMATION SHEET

Investigator: Fred Nyaberi Anching'a

Institutional affiliation: Strathmore Business School (SBS)

SECTION 2: INFORMATION SHEET–THE STUDY

2.1: Why is this study being carried out?

The aim of the study is to assess determinants of value-added tax compliance and the moderating role of startup size in Kenya. The research seeks to offer evidence-based recommendations for enhancing VAT compliance through tailored tax policies.

2.2: Do I have to take part?

No. Taking part in this study is entirely optional and the decision rests only with you. If you decide to take part, you will be asked to complete a questionnaire to get information on determinants of value-added tax compliance of startup in Kenya . If you are not able to answer all the questions successfully the first time, you may be asked to sit through another informational session after which you may be asked to answer the questions a second time. You are free to decline to take part in the study from this study at any time without giving any reasons.

2.3: Who is eligible to take part in this study?

1. Owners of startups, CEO/MDs of the startups or Finance Managers of startups.

2. Those aged 18 years and above

2.4: Who is not eligible to take part in this study?

1. Anyone not directly associated with the startups
2. Those aged 18 years and below

2.5: What will taking part in this study involve for me?

You will be approached by Mr. Fred Nyaberi Anching'a and requested to take part in the study. If you are satisfied that you fully understand the goals behind this study, you will be asked to sign the informed consent form (this form) and then taken through a questionnaire to complete.

2.6: Are there any risks or dangers in taking part in this study?

There are no risks in taking part in this study. All the information you provide will be treated as confidential and will not be used in any way without your express permission.

2.7: Are there any benefits of taking part in this study?

The information will be used to inform strategies to implement to improve VAT Compliance levels for startups.

2.8: What will happen to me if I refuse to take part in this study?

Participation in this study is entirely voluntary. Even if you decide to take part at first but later change your mind, you are free to withdraw at any time without explanation.

2.9: Who will have access to my information during this research?

All research records will be stored in securely locked cabinets. That information may be transcribed into our database but this will be sufficiently encrypted and password protected. Only the people who are closely concerned with this study will have access to your information. All your information will be kept confidential.

2.10: Who can I contact in case I have further questions?

You can contact me, Fred Anching'a, at SBS, or by e-mail, anchinga.nyaberi@strathmore.edu, or by phone, +254 724266416. You can also contact my supervisor, Dr. Erastus Mbithi, at the Strathmore Business School, Nairobi, or by e-mail EMbithi@strathmore.edu.

If you want to ask someone independent anything about this research please contact:

The Secretary–Strathmore University Institutional Ethics Review Board, P. O. BOX 59857, 00200, Nairobi, email ethicsreview@strathmore.edu Tel number: +254 703 034 375

I, _____, have had the study explained to me. I have understood all that I have read and have had explained to me and had my questions answered satisfactorily. I understand that I can change my mind at any stage.

Please tick the boxes that apply to you;

Participation in the research study

☐ AGREE to take part in this research

☐ DO NDON'T AGREE to take part in this research

Storage of information on the completed questionnaire

☐ AGREE to have my completed questionnaire stored for future data analysis

☐ DO NOT AGREE to have my complete questionnaire stored for future data analysis

Participant's Signature:

_____ Date: _____/_____/_____

_

DD / MM / YEAR

Participant's Name:

_____ Time: _____ /_____

_____

(Please print name) ***HR / MN***

Investigator's Signature:

_____ Date: _____/_____/_____

DD / MM / YEAR

Investigator's Name:

_____ Time: _____ /_____

___

(Please print name) ***HR / MN***

APPENDIX III: RESEARCH QUESTIONNAIRE

Please Tick (√) appropriate

1. Gender

i. Female ( ) ii. Male ( ) iii. Prefer not to say ( )

2. Age

i. 18-25 ( ) ii. 26-35 ( ) iii. 36-45 ( ) iv. Above 45 ( )

3. Number of years worked at the firm

i. 1-3 ( ) ii. 4-6 ( ) iii. 7-10 ( ) iv. Above 10 years ( )

4. Level of Education

i. Master Degree ( ) ii. Bachelor Degree ( ) iii. Diploma ( ) iv. Certificate ( )

5. Turnover levels in KES

i. 0 – 500,000 ( )

ii. 500,000- 5,000,000 ( )

iii. 5,000,000 – 50,000,000 ( )

iv. Above 50,000,000 ( )

Section B: Tax Knowledge

Please tick ( ) as appropriate using the scale below on the influence of Tax Knowledge on value added tax compliance among startups

(1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)

Statement	**5**	**4**	**3**	**2**	**1**
1. I understand the basic concepts of Value Added Tax (VAT).					
2. I am aware of my VAT registration obligations as a startup.					
3. I know how to calculate and remit VAT to the tax authorities.					
4. I understand the different VAT rates applicable to my business operations.					
5. I am familiar with the VAT record-keeping requirements.					
6. I have sufficient knowledge to identify potential VAT-related risks and challenges.					
7. I believe that having good tax knowledge improves my startup's overall financial performance.					

Section C: Compliance Costs

Please tick ( ) as appropriate using the scale below on influence of compliance costs on value added tax compliance among startups

(1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)

Statement	5	4	3	2	1
1. The cost of hiring an accountant or tax advisor is a significant burden on my startup.					
2. The time spent on record-keeping and reporting is a major drain on my resources.					
3. The complexity of regulations significantly increases my compliance costs.					
4. The cost of investing in accounting software or other technology to manage compliance is prohibitive for my startup.					
5. Compliance costs negatively impact my startup's cash flow.					
6. High compliance costs discourage startups from growing and expanding their businesses.					
7. The cost of hiring an accountant or tax advisor is a significant burden on my startup.					

Section D: Taxpayer Perception

Please tick ( ) as appropriate using the scale below on influence of taxpayer perception on value added tax compliance among startups

(1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)

Statement	5	4	3	2	1
1. I believe that paying taxes is a fair and necessary contribution to the development of the country.					
2. I perceive the tax system as being complex and difficult to understand.					
3. I believe that the tax authorities are efficient and helpful in resolving tax-related issues.					
4. I believe that the government effectively utilizes the tax revenue collected.					

5. I perceive the risk of audits and penalties related to tax compliance as being high.					
6. I believe that the tax system is designed to support the growth and development of startups.					
7. I am confident that my startup is in full compliance with all tax regulations.					

Section E: Technological Changes

Please tick ( ) as appropriate using the scale below on influence of technological changes on value added tax compliance among startups

(1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)

Statement	**5**	**4**	**3**	**2**	**1**
1. The use of e-invoicing software has simplified my startup's business processes					
2. Online filing platforms have significantly reduced the time spent on compliance.					
3. Access to real-time information and guidance through online portals has improved my understanding of regulations.					
4. I believe that technological advancements have increased transparency and accountability.					
5. I am concerned about data security and privacy risks associated with using technology					
6. I believe that the government should further invest in developing and implementing user-friendly technology solutions for business					
7. Technological advancements have made it easier for startups to comply with regulations					

Section F: Startup Size

Please tick ( ) as appropriate using the scale below on startup size ”

(1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)

Statement	**5**	**4**	**3**	**2**	**1**
1. As my startup grows, the complexity of business operations increases.					

2. The larger my startup becomes, the more resources I need to dedicate to business operations.					
3. I believe that larger startups face greater scrutiny from regulatory authorities.					
4. The impact of regulatory compliance on my startup's profitability is more significant as my business grows.					
5. As my startup expands, it becomes more challenging to ensure accurate and timely reporting.					
6. I believe that larger startups have better access to resources and expertise for regulatory compliance.					
7. The size of my startup significantly influences my overall perception of regulatory compliance.					

Section G: Value Added Tax Compliance Among Startups

Please tick ( ) as appropriate using the scale below on value added tax compliance among startups"

(1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)

Statement	**5**	**4**	**3**	**2**	**1**
1. My startup adheres to Value Added Tax (VAT) regulations.					
2. Value Added Tax (VAT) considerations are integrated into my startup's operations.					
3. Value Added Tax (VAT) compliance is important for my startup's long-term sustainability.					
4. I stay informed about changes to Value Added Tax (VAT) laws and regulations.					
5. My startup addresses Value Added Tax (VAT)-related challenges.					
6. Investing in Value Added Tax (VAT) compliance is beneficial for my startup.					
7. I manage my startup's Value Added Tax (VAT) obligations.					

APPENDIX IV: ETHICAL APPROVAL AND NACOSTI LICENSE

Strathmore UNIVERSITY

1st April 2025

Ms Anching'a Fred,
anchinga.nyaberi@strathmore.edu

Dear Mr Anching'a,

RE: Determinants of Value-Added Tax Compliance and the Moderating Role of Startup Size in Kenya

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** proposal. Your application reference number is **SU-ISERC2811/25.** The approval period is from **1st April 2025 to 31st March 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

Ole Sangale Rd, Madaraka Estate. PO Box 59857-00200, Nairobi, Kenya. Tel +254 (0)703 034000
Email admissions@strathmore.edu www.strathmore.edu

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **316072**

Date of Issue: **08/April/2025**

RESEARCH LICENSE

This is to Certify that Mr.. Fred Nyaberi Anching'a 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: Determinants of Value-Added Tax Compliance and the Moderating Role of Startup Size in Kenya for the period ending : 08/April/2026.

License No: **NACOSTI/P/25/418012**

316072

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

APPENDIX V: START UP FIRMS

Fintech	E-health	Agri-tech	Blockchain	E-commerce and retail-tech	Recruitment & HR	Ed-tech	Logistics	Mobility	Marketing	Energy	Other
Abacus	Access Afya	Afriagrimark	AZA Finance	AfricaSokoni	Campus Biz	African Management Institute	Amitruck	BasiGo	AdLink	Agsol	Kijenzi
Alvin	Afya Plan	Annona	Bismart	Aircart	Duma Works	Angaza Elimu	Ayazona	Data Integrated	AIfluence	Freshbox	Flint Home Integrators
Araka	Afya Rekod	Apollo Agriculture	BitLipa	ANDO	FaidiHR	Arifu	Fleetsimplify	Ecobodaa	Ajua	Gridless	Gro Intelligence
Asante	Afya Research Africa	Aqua Rech	Bitsoko	Badili	Fundis	Craydel	GoBeba	Kiri EV	Synatech	Hydro IQ	KOSA AI
Asilimia	Baobab Circle	Arinifu	Crypsense	Bamba	Fuzu	Dawati	Logistify AI	Kombboa	Swifttdial	M-Paya	UTU

AZA Finance	Damu Sasa	Cinch	Kotani Pay	BuuPass	KaziNow	Elewa	Lori Systems	Ma3Route	Teleeza	PayGo Energy	Angani
Azima	Deaf Elimu Plus	eProd Solutions	Lakt	Cartnshop	Kazi Remote	Eneza Education	M-Post	Mazi Mobility	Wowzi	SunCulture	Eneza Telecom
Bimaleo	Flare	Farm IT	Nash	CashBackApp	LetaWera	Kidato	OkHi	Roam			Node Africa
Bismart	Health-e-Net	Farmers Pride	Pesabase	Copia	Kisafi	Kytabu	RippleNami				WAYO
BitLipa	Hope Tech +	Farmingtech	Pezesha	DohYangu	Kuhustle	M-Lugha	Sendy				Africa's Talking
Bitsoko	Ilara Health	Farmshine	Raise	Duhqa	Onesha	M-Shule	Senga				BRCK
Boya	Lily.Health	Futurepump	Zagace	Dukapepe	Peleza	M-Soma	Sinbad				NikoRadius
Cashlet	M-TIBA	GrowAgric	Afya Rekod	Elloe	SapamaERP	Moringa School	Sote				Internet of Elephants
Chamas	Medbook	iFarm360	M-	MarketForce	SwiftAid	mSwali	StoFresh				Komaza

oft			TIBA		e		Africa				
Chaptr Global	Medixus	iProcure Africa	myDAWA	Mawu Africa	TalentBoard	Sunrise					Jumba
Chereheni Africa	MumsVillage	Kuza	Nurse In Hand	Mobiticket	Tiny Titos	Tustawi					ManPro
Chumz	myDAWA	Lentera	Snark Health	Olivinetech	Uhired.me	Yusudi					JabJab
Chura	Neural Labs Africa	M-Farm	Uthabiti	PesaPoint	WorkPay	Zydii					Ledja
Crediation	Nurse In Hand	Mkulima Young Soko	Annona	Side	Ziada						Vibranium ID
Credit Factory	Snark Health	Pula	Farmshine	Soko							Astral Aerial
Credrails	Tambua	Radava Mercentile	Pula	Sukhiba							Mdundo
Crypsen	TeleAfya	Raino	Shamb	TopUp Mama							Imara TV

se		Tech4Impact	a Records							
Denkim Insurance	The Pathology Network	Selina Wamucii	Twiga Foods	Tushop						Smubu
DukaPOS	TIBU	Shamba Pride	Aircart	Twiva						MyMovies
EastPesa	Totohealth	Shamba Records	M-Post	Uncover Skincare						Optimetriks
Ed Partners	Ujuzi Fursa	SolarFreeze	Ripple Nami	Wasoko						Enfinite Solutions
Fanaka Hybrid	Usalama Tech	Synnefa	Gridless	Weddings Kenya						Sheria Soft
FinAccess	Uthabiti	Taimba	UTU	Yum						xetova
Finplus	Wazi	Twiga Foods	Ledja	ZUMI						e-Kodi
Flexpay	Yapili	Ujuzi Kilimo	Vibranium ID							EasyHouse Africa

Hakki Africa	Zuri Health	WeFarm									KiotaPay
Hisa											Silqu
InstaSend											Alternative Circle
InsureAfrika											AmTech
Jumuisha											Brance
Kakbima											Bunifu
Klientele											Farwell Innovations
Koa											HydraTech
Kopo Kopo											Masterclass
Kotani Pay											Osta Tech
Kwara											RafikiSoft
Kyanda											Studia

											Labs
Lakt											Elephant Bookings
Lami											Nomad Africa
LipaLater											Vibanda
Lipana											Sauti
LipaPlus											Solutech
Lipisha											BlackRhino VR
M-Changa											Gjenge
M-Payer											Mr Green Africa
Mobi-Remit											MobiTech
mTek											
myInsure											
myNGOVO											

Nash											
Ndovu											
Nouveta											
Odibooks											
Patika											
Paylend											
Pesabase											
PesaBazaar											
PesaKit											
PesaPal											
Pezesha											
Popote Payments											
Power Financial Wellness											
Raise											
RePay Africa											
Route											
SafePay											
SaveKubwa											

Shara											
SimbaPay											
simplePOS											
Spektra											
String Analytics											
SuperFluid											
Tanda											
Transcode											
Tulix											
Turaco											
UbaPesa											
Ujuzi											
UzaPoint											
Vooli											
WapiPay											
Watu Credit											
WazInsure											

Weza.io											
Wingubox											
Zagace											
Zanifu											