ONLINE VALUE ADDED TAX AND E COMMERCE IN NIGERIA

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A PROJECT SUBMITTED TO THE DEPARTMENT OF ACCOUNTING, FACULTY OF MANAGEMENT SCIENCES, UNIVERSITY OF BENIN, BENIN CITY FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE BACHELOR OF SCIENCE (B.SC.) DEGREE IN ACCOUNTING, UNIVERSITY OF BENIN

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CERTIFICATION

We the undersigned, hereby certify that this research work was carried out by **Blessing AIGBORUAN** with Matriculation Number: MGS2104491 of the Department of Accounting, Faculty of Management Sciences, University of Benin, Benin City in partial fulfilment of the requirements for the Award of Bachelor of Science Degree (B.SC.) in Accounting.

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DEDICATION

This work is dedicated first and foremost to Almighty God, whose unfailing love, wisdom, and guidance have been my constant source of strength and inspiration throughout this journey. Without His grace, this accomplishment would not have been possible.

I also dedicate this project to my beloved family, whose unwavering support, prayers, encouragement, and understanding have been invaluable. Their love has been the foundation upon which this success is built.

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ABSTRACT

This study examined the effect of online Value Added Tax (VAT) administration on the performance of e-commerce businesses in Nigeria. The research was anchored on the Optimal Tax Theory, Tax Incidence Theory, Technology Acceptance Model, and Laffer Curve Theory, which collectively explain the relationship between taxation efficiency, compliance behaviour, and digital adoption. The study employed a survey research design and collected data from 384 online business operators across major e-commerce platforms in Nigeria. Descriptive statistics, correlation analysis, and multiple regression techniques were used to analyse the data.

The findings revealed that policy clarity, compliance burden, and enforcement intensity significantly influence e-commerce performance. Specifically, policy clarity had a strong positive effect ($\beta = 0.4058$, $p < 0.001$), compliance burden exerted a modest positive effect ($\beta = 0.053$, $p < 0.05$), while enforcement intensity recorded the strongest impact ($\beta = 0.961$, $p < 0.001$). The combined influence of these variables explained about 82% of the variation in e-commerce performance. The study concluded that a transparent, efficient, and technology-driven VAT system enhances compliance and supports digital business growth. It recommends that the Federal Inland Revenue Service (FIRS) simplify VAT policies, digitize compliance processes, strengthen enforcement through data-driven monitoring, and promote collaboration between regulators and e-commerce stakeholders to sustain Nigeria's evolving digital economy.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The global economy has undergone a remarkable transformation with the rapid growth of electronic commerce. E-commerce, defined as the buying and selling of goods and services through digital platforms, has significantly reshaped consumption patterns, supply chains, and business operations (UNCTAD, 2021). In Nigeria, the spread of smartphones, mobile payment systems, and internet penetration has enabled millions of consumers to engage in online shopping and digital transactions. Platforms such as Jumia, Konga, Flutterwave, and Paystack have emerged as key players, facilitating transactions across retail, services, and logistics (Adeleke & Yusuf, 2022; Osuolale, 2022). This growth demonstrates the increasing importance of the digital economy to Nigeria's development trajectory.

As commerce has moved online, governments have sought ways to ensure effective taxation of digital activities. Value Added Tax (VAT), which was introduced in Nigeria in 1993, has become a major source of non-oil revenue, accounting for a growing proportion of government earnings (Okoye & Gbegi, 2021). VAT is a consumption tax imposed at each stage of production and distribution, but borne by the final consumer. Over the years, the Nigerian government has made significant reforms through successive Finance Acts to capture revenue from online trade. The Federal Inland Revenue Service (FIRS) has issued

guidelines requiring both local and foreign digital service providers to register for VAT, collect tax on qualifying transactions, and remit to government accounts (FIRS, 2021).

However, integrating VAT into e-commerce raises complex questions for businesses, consumers, and policymakers. On one hand, it promises to expand the tax base, reduce dependence on oil revenues, and enhance fiscal sustainability (Adegbie & Fakile, 2020; IMF, 2021). On the other hand, digital taxation introduces challenges such as weak enforcement capacity, high compliance costs, and low taxpayer awareness, particularly among small and medium-sized enterprises (Etim, Jeremiah, & Udonsek, 2020). Scholars have highlighted that VAT compliance is often influenced by perceptions of fairness, administrative simplicity, and the perceived risk of detection (Ojo, 2023; Okoye et al., 2019). In the Nigerian e-commerce sector, where many businesses operate informally, these factors become even more critical.

One pressing issue is policy clarity. Many e-commerce operators lack adequate knowledge of their VAT obligations, and the complexity of tax laws often results in confusion and inconsistent practices (Umeh & Chikwendu, 2020). Another challenge is the compliance burden. Integrating VAT into online systems often requires firms to invest in accounting software, payment integration, and staff training, all of which increase operational costs (Deloitte, 2022; Etim et al., 2020). A third dimension is enforcement intensity. The digital nature of e-commerce makes it difficult for tax authorities to track transactions, particularly

cross-border sales. Weak monitoring mechanisms mean that many businesses and foreign providers continue to operate without remitting VAT (PwC, 2023; Ojong, 2022).

These challenges affect not only government revenue but also business sustainability. Firms that comply with VAT may be compelled to adjust their pricing strategies, sometimes passing the cost on to consumers, thereby affecting demand and competitiveness (Osuolale, 2022). Others may absorb the cost, reducing profitability. Non-compliant businesses, however, may gain unfair advantages, leading to distorted market competition. For consumers, VAT may influence purchasing behaviour, particularly in a price-sensitive economy such as Nigeria (Okoye & Gbegi, 2021). Ultimately, the effective administration of VAT in the e-commerce sector requires balancing revenue goals with the need to promote digital entrepreneurship, innovation, and fair competition.

Thus, the background to this study highlights the urgent need to examine how online VAT affects Nigeria's e-commerce sector. The research focuses specifically on how VAT policy clarity, compliance burden, and enforcement intensity influence compliance behaviour, pricing strategies, and profitability among e-commerce firms. By doing so, the study contributes to ongoing debates on how to strengthen Nigeria's tax system while supporting the growth of its digital economy.

1.2 Statement of the Problem

Although VAT has been part of Nigeria's tax regime for three decades, its extension to the digital economy has proven difficult. E-commerce is borderless, fast-moving, and largely informal, which complicates the application of conventional tax systems (OECD, 2020). In Nigeria, the Finance Acts of 2019 and 2020 extended VAT obligations to digital service providers, but compliance and enforcement remain weak. Scholars such as Etim et al. (2020) and Umeh and Chikwendu (2020) have noted that ambiguity in guidelines and lack of awareness continue to create uncertainty among businesses. Ojo (2023) similarly found that small businesses often perceive VAT regulations as complex and burdensome, reducing their willingness to comply.

The first critical problem is lack of policy clarity. Despite FIRS guidelines, many e-commerce operators remain uncertain about how VAT applies to their business models. This confusion results in inconsistent registration, under-reporting of transactions, and low compliance levels (Okoye et al., 2019; Osuolale, 2022). Without clear, accessible rules, compliance becomes discretionary rather than obligatory.

The second problem is the compliance burden. Implementing VAT systems requires costs related to technology, record-keeping, and payment integration. For large companies, these costs may be manageable, but for small online retailers, they can be prohibitive (Etim et al., 2020). Deloitte (2022) and PwC (2023) have observed that businesses often view tax

compliance as an additional cost burden, leading some to deliberately avoid registering or remitting VAT.

The third problem is weak enforcement intensity. Nigeria's tax authorities have limited digital infrastructure to monitor online transactions. Cross-border sales by foreign providers are particularly difficult to track, resulting in significant revenue leakage (Ojong, 2022; IMF, 2021). Weak enforcement lowers the perceived risk of detection, encouraging non-compliance.

The consequences of these problems are significant. Firms that comply with VAT often face reduced profitability, while non-compliant firms gain unfair competitive advantages. Pricing strategies may also be distorted, as compliant firms raise prices to cover tax obligations, affecting consumer demand (Okoye & Gbegi, 2021; Osuolale, 2022). Consumers, especially those in lower-income brackets, may reduce their online purchases due to price sensitivity, thereby slowing the growth of e-commerce. At the macroeconomic level, government revenue remains far below potential, undermining efforts to diversify the tax base and support development (Adegbie & Fakile, 2020).

Therefore, the central problem is that despite policy reforms, online VAT in Nigeria continues to face low compliance, high burden of administration, and weak enforcement. These challenges reduce its effectiveness as a revenue tool and risk discouraging innovation in the e-commerce sector. This study addresses these gaps by examining how

VAT policy clarity, compliance burden, and enforcement intensity influence compliance behaviour, pricing strategies, and profitability among Nigerian e-commerce businesses.

1.3 Research Questions

In light of the above, this research work is set to answer the research questions below**:**

1. What is the level of VAT compliance among e-commerce businesses in Nigeria?
2. How does online VAT affect the pricing strategies and profitability of e-commerce firms?
3. In what ways does online VAT influence consumer purchasing behaviour in Nigeria?

1.4 Research Objectives

The following are the objectives of the study:

1. To examine the level of VAT compliance among e-commerce businesses in Nigeria.
2. To evaluate the effect of online VAT on pricing strategies and profitability of e-commerce firms.
3. To analyse the influence of online VAT on consumer purchasing behaviour in the Nigerian e-commerce sector.

1.5 Research Hypotheses

1. **H_{01}:** There is no significant level of VAT compliance among e-commerce businesses in Nigeria.
2. **H_{02}:** Online VAT has no significant effect on pricing strategies and profitability of e-commerce firms.
3. **H_{03}:** Online VAT does not significantly influence consumer purchasing behaviour in Nigeria.

1.6 Scope of the Study

This study focuses on the e-commerce sector in Nigeria, with particular attention to how online Value Added Tax (VAT) influences the operations of digital businesses. The scope of this research includes an analysis of three key indices: VAT compliance behaviour, pricing strategy adjustments, and business profitability. These indices reflect the central areas where VAT policy clarity, compliance burden, and enforcement intensity exert significant impact on e-commerce operators.

The research will target a diverse range of e-commerce businesses in Nigeria, including small and medium-sized enterprises (SMEs), independent digital entrepreneurs operating through social media platforms, and vendors trading on established online marketplaces such as Jumia and Konga. This variety of firms ensures that the study captures perspectives from both formal and semi-formal segments of the e-commerce industry, providing a

comprehensive understanding of how online VAT policies affect business practices across different categories of operators.

Data for this study will primarily be collected through the issuance of structured questionnaires to e-commerce business owners, managers, and decision-makers responsible for sales and tax compliance. The focus will be on recent data in order to ensure that the findings reflect the present realities of VAT enforcement in the digital economy, as well as the operational challenges faced by businesses under Nigeria's current fiscal and technological environment.

While the emphasis of this research is on Nigeria, insights may be compared with global best practices in digital taxation to provide context and strengthen the analysis. Nevertheless, the core focus remains on the unique challenges and dynamics of VAT compliance within Nigerian e-commerce businesses, ensuring that the recommendations are tailored to the country's economic and regulatory environment.

1.7 Significance of the Study

This study is significant for several reasons, as it provides valuable insights into the intersection between taxation and the fast-growing digital economy in Nigeria.

1. For the Government and Tax Authorities:

The study will help policymakers and agencies like the Federal Inland Revenue Service (FIRS) understand the effectiveness of current VAT policies on e-commerce. It will also

highlight gaps in enforcement and suggest ways to improve tax collection from digital platforms, thereby enhancing national revenue generation.

2. For E-Commerce Businesses:

It will guide online businesses on how VAT policies impact their operations, pricing strategies, and profit margins. The findings can help them align their practices with tax regulations and prepare for better compliance.

3. For Consumers:

The research will raise awareness about how VAT affects online purchasing and pricing, helping consumers understand their role and responsibilities in a VAT-regulated digital marketplace.

4. For Legal and Policy Analysts:

This study provides a foundation for further legal reforms and policy development in digital taxation, especially in creating a balance between regulation and innovation.

5. For Academics and Researchers:

It contributes to the growing body of literature on digital taxation and e-commerce in developing economies, serving as a resource for future research and academic discussion.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The rise of e-commerce in Nigeria has transformed the retail and service landscape, driven by internet penetration, mobile device adoption, and fintech innovations. Alongside this growth, taxation authorities have sought to capture revenue from the digital economy through Value Added Tax (VAT). VAT, first introduced in Nigeria in 1993, has evolved through amendments in the Finance Acts of 2019, 2020, and 2021. Its extension to digital platforms is intended to broaden the tax base and enhance non-oil revenue. However, this shift has significant implications for businesses, consumers, and government revenue mobilization. This study examines the impact of online VAT on Nigeria's e-commerce sector, exploring its role in shaping pricing, profitability, compliance, and consumer behaviour.

2.2 E-commerce

Electronic commerce (e-commerce) refers to the buying and selling of goods or services using the internet and the transfer of money and data to execute these transactions. The World Trade Organization (WTO) provides a definition of E-commerce as the electronic means of production, distribution, marketing, sale, or delivery of goods and services. According to (Baker & McKenzie 2001, cited Kaynak et al 2005). E-commerce

encompasses various models including Business-to-Consumer(B2C),Business-to-Business(B2B),Consumer-to-Consumer (C2C), and increasingly, Consumer-to-Business (C2B).

The Business-to-Business form entails electronic transactions between two organizations. B2B improves communication among organizations, reduces transaction costs, and increases the efficiency of business processes. The Business-to-Customer (B2C) involves business transactions between the organization and consumer of its goods and services over electronic means.

B2C means sales targeted at individual customers. It promotes a closer interaction of the business firm with the public.

Over the years, e-commerce has caused a shift from the orthodox way of doing business to the modern way. It also includes platforms like online retail stores, mobile apps, marketplaces, social commerce, and digital service platforms. E-commerce is viewed as the electronic means of production, distribution, marketing, sale, or delivery of goods and services. According to (Baker & McKenzie 2001, cited Kaynak et al 2005). Shultz & Baumgartner (2001) define e-commerce as the buying and selling of products, services, and information via computer networks. Globerman et al (2001, cited Kaynak et al, 2005) also state that e-commerce involves the contractual agreement between the buyer and the seller and the conclusion of that agreement through the payment of goods and services via electronic means. Watson et al. (1998) provide reasons for the benefits of e-commerce.

In Nigeria, e-commerce is one of the fastest-growing sectors, driven by increasing internet penetration, mobile phone usage, fintech innovations, and a youthful population. Major players include Jumia, Konga, Flutterwave, Paystack, and international platforms like Amazon and AliExpress. Existing empirical literature lacks a comprehensive model integrating both merchant and consumer perspectives in response to VAT enforcement in the Nigerian e-commerce space.

2.2.1 Measures of E-commerce Transactions

2.2.1.1 Revenue Growth of E-commerce Platforms

Global e-commerce revenue has experienced robust growth in recent years and is projected to continue on a strong upward trajectory. In 2025, the total global e-commerce market revenue is expected to reach approximately $4.3 trillion in retail e-commerce alone, with broader e-commerce, including B2B markets, reaching up to $8.3 trillion. This reflects a compound annual growth rate (CAGR) of around 8% to 10% from the early 2020s, driven by greater internet penetration, mobile commerce adoption, and consumer trust in digital payments. Platforms like Amazon and Alibaba generate annual revenues in the trillion-dollar range, underscoring their market dominance.

2.2.1.2. Number of Online Transactions

The volume of online transactions has surged alongside revenue growth, fuelled by the expansion of the global online shopper base, estimated at 2.77 billion people in 2025 (about 33% of the world's population). Mobile commerce accounts for a significant and growing

share of transactions, with over 70% of purchases made via smartphones. Increasing digital payment adoption and integrated checkout experiences further facilitate higher transaction volumes worldwide.

2.2.1.3. User Traffic and Market Penetration

Leading e-commerce platforms garner vast user traffic; for example, Amazon attracts about 2.9 billion monthly visitors, while Alibaba's platforms see close to one billion monthly users. These platforms penetrate markets both in mature economies and emerging markets, with penetration rates growing as digital infrastructure and consumer confidence improve. Online retail sales are projected to account for around 21% to 24% of all retail sales globally by 2025, a sign of deepening market penetration.

2.2.1.4 Vendor and Merchant Enrolment

Vendor and merchant participation on e-commerce platforms is critical to platform success and competitiveness. There are over 28 million e-commerce sites worldwide as of 2025, with daily new entrants driven by lowered barriers to entry via SaaS platforms and marketplace integrations. Multichannel selling and generative AI tools are enabling sellers to efficiently list products and reach new customers across multiple platforms, expanding their growth opportunities. Research shows that brands leveraging multiple marketplaces can more than double revenue growth, underscoring the importance of diversified vendor enrolment strategies.

2.2.1.5 Profitability and Operational Sustainability

Profitability in e-commerce hinges on managing costs alongside scaling revenues. Recent studies reflect that net profit margins in e-commerce typically range from 5% to 20%, affected by sales volume, average order value, and customer acquisition and retention strategies. Platforms that optimize logistics, enhance customer experience, and implement advanced digital marketing (including AI-driven SCRM) see higher profitability and operational sustainability. However, challenges such as trust, regulatory compliance, and operational costs remain. Research underscores that long-term sustainability for e-commerce businesses is closely tied to technological adoption, vendor relations, and customer loyalty in competitive digital markets.

2.3 Value Added Tax (VAT)

Value Added Tax (VAT) is a consumption tax levied on the value added to goods and services at each stage of production or distribution. Introduced in Nigeria in 1993 by the Value Added Tax Act (now amended and consolidated under the Finance Acts 2019, 2020, and 2021), it is also a neutral tax on businesses in that it does not represent a real cost to anyone but the end consumer. Everybody pays tax to the Government whenever they purchase goods or services. VAT was first introduced at a national level in France in 1954, with its original coverage limited and moving to a full VAT that reached the broader retail sector in 1968. The first full VAT ACT in Europe was enacted in Denmark in 1967,

although the country did not join the European Economic Community (EEC) until 1973 (James, 2011). VAT adoption progressed in two major phases. The first occurred mostly in Western Europe and Latin America during the 1960s and 1970s. The rise of the VAT in Western Europe was accelerated by a series of EEC directives requiring member states to adopt a harmonized VAT upon entry to the European Union. The second phase of VAT adoption occurred from the late 1980s with the introduction of VAT in some high-profile industrialized countries outside the EU, such as Australia, Canada, Japan, and Switzerland. This phase also witnessed the massive expansion of VAT in transitional and developing economies, most notably in Africa and Asia, with the IMF and the World Bank identified as playing key influences in the rapid adoption of VAT among these countries (James, 2011). Incidentally, the United States of America has remained the only advanced country to have refused to implement the VAT services. VAT revenue has become a significant source of government revenue in Nigeria. Therefore, the primary objective of fiscal policy is to raise more revenue through value-added tax (Ademola, 2009). The tax authorities have been guided by the need to design an equitable and efficient VAT system capable of complementing government expenditure and, thus, reducing recourse to public borrowing. VAT rate in Nigeria has been determined in a way that minimizes disincentive effects on economic activities. VAT is currently charged at a standard rate of 7.5% on eligible goods and services. It is collected by businesses on behalf of the Federal Inland Revenue Service

(FIRS) and remitted monthly. The effects of low tax effort in Nigeria have been strengthened by the value-added tax system.

VAT is an indirect tax, meaning the burden is borne by the final consumer while businesses serve as collection agents. In Nigeria, VAT is a key source of non-oil revenue and plays a vital role in funding public services. However, its application to digital platforms and the e-commerce sector has presented regulatory, compliance, and enforcement challenges due to the borderless nature of online trade.

2.3.1 Measures of Value Added Tax (VAT)

2.3.1.1 E-commerce Transaction Costs

Transaction costs in e-commerce encompass the fees and expenses beyond product price that enable online transactions, such as payment processing fees, shipping, and returns handling. A 2015 empirical study analysing over 14 million transactions from a European online retailer revealed significant variation in transaction costs depending on payment methods (e.g., credit cards, PayPal, invoice) and customer characteristics. These costs impact retailer competitiveness and profitability, highlighting the importance of strategic payment method selection to minimize expenses and capital requirements. Customer transaction costs, including delivery logistics, can be reduced through route optimization and increased conversion rates, enhancing consumer utility and lowering per-buyer delivery costs. Managing transaction costs efficiently is a key determinant of customer satisfaction and repeat purchases in e-commerce.

2.3.1.2 Pricing of Goods and Services

E-commerce pricing strategies are increasingly sophisticated, involving digital dynamic pricing, psychological pricing, and value-based pricing geared toward heterogeneous online consumers. Research on digital pricing strategies shows that special event pricing, product lines, and promotional pricing strongly influence purchasing decisions and satisfaction, underscoring the impact of pricing on consumer behaviour in digital markets. Literature reviews on competitive pricing highlight the oligopolistic nature of many e-commerce markets, intense price competition, and the challenges of multi-product pricing where substitution and cannibalization effects arise. Dynamic pricing models outperform static ones in addressing constantly changing online market environments. This research emphasizes the need for e-commerce firms to balance operational performance, price competitiveness, and customer retention policies to optimize pricing strategies effectively.

2.3.1.3 Profit Margins of Online Businesses

Online business profit margins vary widely based on sector and business model. Recent studies show gross margins can range from 30% to over 70%, with luxury and digital products commanding higher margins. Net profit margins typically range from 5% to 20%, reflecting operational efficiency and pricing effectiveness. The profitability of online businesses is influenced by factors such as sales volume, order value, customer acquisition, and retention strategies, alongside the effective use of social customer relationship

management (SCRM) to build loyalty and repeat purchases. E-commerce profitability is critical for strategic planning, financial stability, and attracting investments.

2.3.1.4 Consumer Purchasing Behaviour

E-commerce consumer behaviour continues to evolve, shaped by convenience, price sensitivity, trust, and digital engagement. A 2025 study of online shopping behaviours highlights that consumers now value convenience, accessibility, and variety more than physical inspection, with significant demographic and cultural variations influencing purchase decisions. Impulse buying, discount seeking, loyal customer patterns, and ethical purchasing all coexist online, with digital marketing and personalization playing pivotal roles in shaping behaviour. The pandemic accelerated online shopping adoption, further altering buyer expectations toward efficiency and transparency.

2.3.1.5 Vendor Compliance Behaviour

Vendor compliance encompasses the adherence of suppliers to retailer standards in packaging, shipping, order accuracy, and documentation, which is vital for operational efficiency and customer satisfaction. Research in regulatory compliance models underscores the role of ethical behaviour and trust in enhancing vendor cooperation, reducing errors, and improving supply chain performance. Distrust can reduce compliance, posing challenges for regulatory oversight and vendor relationship management, hence the importance of fostering trust and fair governance in e-commerce ecosystems.

2.3.1.6 Digital Platform Competitiveness

Digital platforms dominate e-commerce through network effects, economies of scale, and data-driven growth. Research on digital platform ecosystems highlights their competitive dynamics, including "competition for the market" where platforms seek dominance rather than market coexistence. Studies reveal these platforms' heterogeneity in profitability, rapid growth in user base, and associated regulatory challenges aimed at ensuring fair competition and innovation. Developing countries' regulatory efforts focus on mitigating anti-competitive risks while fostering platform-driven innovation. Platforms must innovate user experiences, ensure interoperability, and balance regulatory compliance to sustain competitiveness and market relevance.

2.4 Theoretical Framework

This section explores relevant theories underpinning taxation and digital commerce behaviour, providing a framework to analyse the effects of VAT on e-commerce in Nigeria.

2.4.1 Optimal Tax Theory

Optimal tax theory explores how taxation can be structured to achieve specific objectives such as efficiency, equity, and economic growth. Applied to e-commerce, this theory suggests that VAT should be structured in a way that minimizes economic distortions while capturing revenue from digital commerce without discouraging innovation or consumption.

In the context of Nigeria, where a large portion of e-commerce activity is informal and often under the radar of regulatory authorities, optimal taxation implies creating policies that encourage compliance without overburdening small vendors or disrupting digital entrepreneurship.

2.4.2 Tax Incidence Theory

Tax incidence theory examines who ultimately bears the burden of a tax—the buyer or the seller. In the case of VAT on e-commerce, even though businesses are required to collect the tax, the burden is passed on to consumers through increased prices.

Understanding tax incidence helps explain consumer reactions to VAT-inclusive prices and how this might reduce demand for online products or services, especially among price-sensitive consumers in Nigeria's lower-income brackets.

2.4.3 Technology Acceptance Model (TAM)

Developed by Davis (1989), TAM explains how users come to accept and use technology. It posits that perceived usefulness and ease of use influence technology adoption. VAT implementation on e-commerce may affect these perceptions, especially if compliance procedures are complex or costly, thereby discouraging small-scale merchants from using digital platforms.

By applying TAM, we understand how increased tax obligations might hinder e-commerce adoption by informal or semi-formal traders who find the regulatory environment cumbersome.

2.4.4 Laffer Curve Theory

The Laffer Curve illustrates the relationship between tax rates and tax revenue. It posits that beyond a certain point, higher taxes lead to lower revenue due to reduced compliance or activity. Applied to e-commerce in Nigeria, excessive VAT or complex enforcement may drive businesses underground, reduce formal participation, or push consumers toward untaxed informal markets.

Hence, an optimal VAT policy should balance tax collection goals with the potential discouraging effect on e-commerce engagement.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter outlines the methodology adopted to investigate the effect of Online Value Added Tax (VAT) on e-commerce businesses in Nigeria. It presents the research design, population of the study, sampling techniques, sample size, research instruments, data collection procedures, and methods of data analysis. The methodology is carefully aligned with the objectives of the study, ensuring that data collection and analysis are rigorous, reliable, and capable of providing valid answers to the research questions.

3.2 Research Design

The study adopts a descriptive survey research design, which is appropriate for examining the relationship between online VAT and its effect on business outcomes such as compliance behaviour, pricing strategies, and profitability. This design allows for the systematic collection of quantitative data directly from e-commerce operators, providing insights into how VAT policy clarity, compliance burden, and enforcement intensity shape business practices. The survey approach also facilitates the use of a structured questionnaire as the primary data collection instrument, enabling the researcher to obtain measurable data that aligns with the stated research objectives and hypotheses.

3.3 Population of the Study

The population of this study comprises e-commerce businesses operating in Nigeria. These include small and medium-sized enterprises (SMEs), independent digital entrepreneurs, and vendors trading on established platforms such as Jumia, Konga, and other online marketplaces, as well as businesses that operate through social media channels and their own websites. This population is appropriate because these businesses are directly affected by online VAT policies and are responsible for VAT registration, compliance, and pricing adjustments. Since the exact number of active e-commerce businesses in Nigeria is not readily available due to the informal and fast-changing nature of the sector, the population is treated as large and indeterminate. This justifies the use of Cochran's sample size determination formula for unknown populations to ensure adequate representation of the study group.

3.4 Sampling Technique and Sample Size

Given the large and indeterminate nature of e-commerce businesses in Nigeria, it is not feasible to obtain a complete list of all operators in the sector. As such, the study employs a purposive and convenience sampling technique. Purposive sampling is adopted because the research specifically targets e-commerce operators who are engaged in online transactions and are directly affected by Value Added Tax (VAT) policies. Convenience sampling is used alongside this approach to reach respondents who are more accessible and

willing to participate, particularly on digital platforms such as Jumia, Konga, and social media marketplaces. This combination ensures that the sample is both relevant and practical for the study context.

The sample size for the study is determined using Cochran's formula for large or unknown populations:

$n_0 = (Z^2 \times p\,(1 - p)) \div e^2$

Where:

- n_o = required sample size
- Z = standard normal deviation at 95% confidence level (1.96)
- p = estimated proportion of the population (0.5, to maximize sample size)
- e = margin of error (0.05)

Substituting into the formula:

$n_0 = (1.96^2 \times 0.5 \times 0.5) \div 0.05^2$

$n_0 = (3.8416 \times 0.25) \div 0.0025$

$n_0 = 0.9604 \div 0.0025$

$n_0 = 384.16$

The minimum required sample size is therefore approximately 384 respondents. This sample size is considered adequate for the study and ensures reliable and valid results.

3.5 Model Specification

The study examines the relationship between Online VAT and e-commerce in Nigeria. E-commerce in Nigeria is treated as the dependent variable, measured through business outcomes such as compliance behaviour, pricing strategies, and profitability. The independent variables are policy clarity, compliance burden, and enforcement intensity. The model is specified as:

$$ECOM_i = \beta_0 + \beta_1 PLC_i + \beta_2 CBU_i + \beta_3 ENF_i + U_i$$

Where:

- $ECOM_i$ = E-commerce in Nigeria for respondent *i*
- PLC_i = Policy Clarity for respondent *i*
- CBU_i = Compliance Burden for respondent *i*
- ENF_i = Enforcement Intensity for respondent *i*
- β_0 = Constant term
- $\beta_1 – \beta_3$ = Coefficients measuring the impact of each independent variable
- U_i = Error term

A priori expectations:

$\beta_1 > 0$: Policy clarity is expected to positively influence e-commerce in Nigeria.

$\beta_2 < 0$: Compliance burden is expected to negatively influence e-commerce in Nigeria.

$\beta_3 > 0$: Enforcement intensity is expected to positively influence e-commerce in Nigeria.

3.6 Research Instrument for Data Collection

The study uses a **structured questionnaire** as the primary instrument for data collection. The questionnaire is divided into two sections:

Section A: Demographic information of respondents, including business size, nature of business, and business platform. These provide background information on the characteristics of e-commerce operators.

Section B: Statements designed to measure the independent variables (policy clarity, compliance burden, and enforcement intensity) and the dependent variable (e-commerce outcomes). Each item is rated on a 5-point Likert scale, ranging from Strongly Agree (5) to Strongly Disagree (1).

This format ensures consistency and generates quantifiable data for robust analysis.

3.7 Reliability of the Instrument

To ensure reliability, a pilot test will be conducted with 20 e-commerce operators not included in the main sample. The internal consistency of the questionnaire will be tested using Cronbach's Alpha, with a threshold of 0.70 or above considered acceptable. The pilot test will also help refine ambiguous questions, ensuring clarity and precision.

3.8 Operationalisation and Measurement of Variables

Table 3.1: Operationalisation of Variables

Variable	Type	Definition/Description	Measurement	Scale
E-commerce in Nigeria (ECOM)	Dependent	Overall outcomes of VAT on compliance behaviour, pricing adjustments, and profitability	Likert-scale responses on outcome items	Ordinal (5-point)
Policy Clarity (PLC)	Independent	The degree to which VAT rules and obligations are clear to operators	Likert-scale responses on clarity items	Ordinal (5-point)
Compliance Burden (CBU)	Independent	Costs and administrative challenges of complying with VAT	Likert-scale responses on burden items	Ordinal (5-point)
Enforcement Intensity (ENF)	Independent	The strength of VAT monitoring and penalties	Likert-scale responses on enforcement items	Ordinal (5-point)

Source: Researcher's Compilation (2025)

3.9 Method of Data Analysis

The data collected will be analysed using both descriptive and inferential statistics. Descriptive statistics such as frequencies, percentages, means, and standard deviations will summarise demographic characteristics and trends. Inferential statistics will include multiple regression analysis to test the impact of policy clarity, compliance burden, and enforcement intensity on e-commerce in Nigeria. A significance level of 5 percent ($\alpha = 0.05$) will be adopted. Data analysis will be conducted using the Statistical Package for Social Sciences (SPSS).

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents and analyses the data collected for the study titled "Online Value Added Tax (VAT) and E-Commerce in Nigeria." The analysis is organised to address the research questions and test the hypotheses formulated in Chapter Three. The study focuses on examining how policy clarity, compliance burden, and enforcement intensity of the online VAT framework influence the overall performance of e-commerce businesses in Nigeria, measured through compliance behaviour, pricing strategies, and profitability.

Data for the analysis were obtained from 384 valid responses retrieved from e-commerce operators across Nigeria. Respondents comprised owners and managers of online businesses operating on various digital platforms, including social-media storefronts, online marketplaces, and independent websites. The chapter begins with a presentation of respondents' demographic characteristics, followed by descriptive summaries of each major variable. Inferential analyses are then conducted to establish the relationships among variables using correlation and multiple-regression techniques. All analyses were performed using the Statistical Package for the Social Sciences (SPSS v25) at a 5 percent level of significance.

4.2 Data Presentation

The primary data for this research were generated through a structured questionnaire administered to e-commerce business owners and managers within Nigeria's digital marketplace. The instrument was designed to capture both background information and responses to specific constructs relating to online VAT.

Out of the questionnaires distributed, 384 copies were completed and returned in usable form, representing the final sample size used for the analysis. The questionnaire consisted of two main sections. Section A elicited demographic information such as business size, nature of business, and platform of operation, while Section B focused on the core study variables: policy clarity, compliance burden, enforcement intensity, and e-commerce outcomes.

The following subsections present the demographic characteristics of respondents, which provide a background for understanding variations in VAT compliance and business performance among Nigeria's online vendors.

4.2.1 Demographic Data

Table 1: Demographic Characteristics of Respondents

Variable	**Frequency**	**Percent**
Business Size		
Micro	112	29.2 %
Small	147	38.3 %
Medium	86	22.4 %
Large	39	10.1 %
Total	**384**	**100.0 %**
Nature of Business		
Goods	182	47.4 %
Services	94	24.5 %
Mixed (Goods and Services)	108	28.1 %
Total	**384**	**100.0 %**
Business Platform		
Social Media (Instagram, WhatsApp, Facebook)	153	39.8 %
Online Marketplace (Jumia, Konga etc.)	121	31.5 %
Own Website or Mobile App	44	11.5 %
Multiple Platforms	66	17.2 %
Total	**384**	**100.0 %**

Source: Field Survey (2025)

Table 1 summarises the demographic characteristics of the 384 respondents who participated in the study. The information provides a snapshot of Nigeria's evolving e-

commerce environment, highlighting variations in business size, operational nature, and preferred digital platforms.

Business Size:

Most respondents (38.3 percent) were *small-scale operators*, while *micro-enterprises* accounted for 29.2 percent. Medium-sized firms represented 22.4 percent, and only 10.1 percent were classified as large businesses. This distribution indicates that Nigeria's e-commerce sector is predominantly driven by micro, small, and medium enterprises (MSMEs). Such businesses typically operate with limited administrative capacity, which directly affects their ability to comply fully with VAT procedures and digital filing requirements.

Nature of Business:

Almost half of the businesses (47.4 percent) dealt primarily in *goods-based transactions*, selling products such as electronics, fashion items, and household equipment. About 24.5 percent specialised in *services*—including logistics, digital design, and consultancy—while 28.1 percent combined both goods and services. This mixture reflects the adaptive structure of Nigeria's online marketplace, where diversification helps sellers manage taxation effects and market volatility.

Business Platform:

The majority of respondents (39.8 percent) operated mainly through *social-media platforms* such as Instagram, WhatsApp, and Facebook. Another 31.5 percent used *formal*

online marketplaces like Jumia and Konga. A smaller portion (11.5 percent) relied on *independent websites or mobile apps*, while 17.2 percent ran *multi-channel operations* across two or more platforms. This distribution shows that many Nigerian online businesses prefer accessible and low-cost channels that require minimal technical setup, a factor that influences both VAT enforcement and compliance monitoring.

4.2.2 Descriptive Analysis

Descriptive statistics were employed to summarise the responses on the major variables of the study, beginning with policy clarity, followed by compliance burden, enforcement intensity, and e-commerce outcomes in subsequent sections. The descriptive results provide insights into the respondents' perceptions of the clarity and accessibility of VAT policies as they relate to online business operations in Nigeria.

Table 4.2 Descriptive Analysis

	ECOM	PLC	CBU	ENF
Mean	3.663021	3.690625	3.850521	4.008854
Median	4.000000	4.000000	4.000000	4.200000
Maximum	5.000000	5.000000	5.000000	5.000000
Minimum	1.000000	1.000000	1.000000	2.200000
Std. Dev.	1.200038	1.174541	1.113529	0.728978
Skewness	-0.524953	-0.558908	-0.727771	-0.777068
Kurtosis	2.001147	2.112427	2.364962	2.378283
Jarque-Bera	33.60012	32.59675	40.34997	44.82995
Probability	0.000000	0.000000	0.000000	0.000000
Sum	1406.600	1417.200	1478.600	1539.400
Sum Sq. Dev.	551.5549	528.3662	474.8999	203.5299
Observations	384	384	384	384

The descriptive statistics for the study variables show a consistent pattern of responses across the four constructs. The mean values range from 3.66 to 4.01, indicating that respondents generally expressed agreement with the statements measuring each variable. Enforcement Intensity recorded the highest mean value (4.01), suggesting that respondents strongly perceive active and visible enforcement of VAT policies in Nigeria's e-commerce sector. Compliance Burden had a mean of 3.85, reflecting a general acknowledgement that meeting VAT obligations demands significant effort and cost, while Policy Clarity (3.69) and E-Commerce Outcomes (3.66) indicate moderately positive assessments of the VAT framework's clarity and its influence on online business performance. The median values of 4.00 for all variables show that most responses were concentrated around the "agree" category, suggesting a high level of consensus among participants.

The maximum and minimum values demonstrate variability in responses, with all variables attaining a maximum score of 5.00 (strongly agree) and a minimum of 1.00, except for Enforcement Intensity which had a slightly higher minimum of 2.20, indicating that no respondents completely disagreed with all items related to enforcement. The standard deviations, ranging from 0.73 to 1.20, indicate moderate spread in the data, implying that while general agreement was observed, individual differences in opinion still existed among respondents.

The skewness values for all variables are negative, ranging between –0.52 and –0.78, suggesting that the data distributions are slightly left-skewed, with a greater concentration

of high-end responses. The kurtosis values, all close to 2.0, indicate relatively normal distributions with mild flattening, showing that responses were fairly balanced without excessive peaks. The Jarque–Bera statistics for all variables are significant at the 1 percent level, indicating minor deviations from perfect normality, though these deviations are acceptable given the large sample size of 384 observations.

Overall, the descriptive results reveal that respondents generally view Nigeria's online VAT policy as clear and well-enforced, even though compliance requirements remain somewhat demanding. The consistently high mean values and modest dispersion suggest a broadly positive perception of the VAT framework's implementation and its influence on the performance and legitimacy of e-commerce businesses in Nigeria.

Table 4.3: Responses on Policy Clarity

Items	**Strongly Disagree (1)**	**Disagree (2)**	**Undecided (3)**	**Agree (4)**	**Strongly Agree (5)**	**Mean**	**SD**
PLCQ1: The Federal Inland Revenue Service (FIRS) provides clear and understandable guidelines on VAT for online businesses.	26 (6.8%)	58 (15.1%)	60 (15.6%)	89 (23.2%)	151 (39.3%)	3.73	1.302

PLCQ2: The VAT registration and filing processes for e-commerce businesses are easy to understand and follow.	24 (6.3%)	55 (14.3%)	62 (16.1%)	98 (25.5%)	145 (37.8%)	3.74	1.270
PLCQ3: Information regarding VAT obligations and procedures is easily accessible to online vendors.	29 (7.6%)	58 (15.1%)	73 (19.0%)	88 (22.9%)	136 (35.4%)	3.64	1.304
PLCQ4: VAT laws and policies for online transactions are consistent and free from ambiguity.	34 (8.9%)	49 (12.8%)	74 (19.3%)	103 (26.8%)	124 (32.3%)	3.61	1.294
PLCQ5: FIRS communicates updates on VAT regulations promptly and effectively to e-commerce businesses.	30 (7.8%)	62 (16.1%)	67 (17.4%)	99 (25.8%)	126 (32.8%)	3.60	1.301

Aggregate Mean/SD						**3.66**	**1.294**

Source: Field Survey (2025)

Table 4.3 shows the respondents' opinions on the clarity and accessibility of Nigeria's online VAT policy framework. The results reveal generally positive perceptions across all five items, with mean values ranging between 3.60 and 3.74, indicating that most respondents agreed that VAT guidelines and procedures are moderately clear and understandable.

The first item (PLCQ1) recorded a mean of 3.73 (SD = 1.302), showing that many e-commerce operators believe that the FIRS provides fairly clear and understandable guidelines on VAT for online businesses. Similarly, PLCQ2, with a mean of 3.74 (SD = 1.270), suggests that respondents generally find the VAT registration and filing processes relatively straightforward.

For PLCQ3 (mean = 3.64, SD = 1.304), respondents moderately agreed that information regarding VAT obligations is accessible, though the slightly higher standard deviation points to some variation in awareness levels. PLCQ4, which examined whether VAT policies are consistent and free from ambiguity, yielded a mean of 3.61 (SD = 1.294), suggesting that while clarity exists in some areas, respondents still experience some confusion or policy inconsistency. The fifth item (PLCQ5) had a mean of 3.60 (SD = 1.301), indicating that communication of updates by FIRS is moderately effective but not comprehensive.

Table 4.4: Responses on Compliance Burden

Items	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)	Mean	SD
CBUQ6: The cost of complying with VAT regulations (such as record keeping and remittance) is high for online businesses.	29 (7.6%)	48 (12.5%)	68 (17.7%)	88 (22.9%)	151 (39.3%)	3.74	1.299
CBUQ7: VAT compliance requires significant administrative effort and time from e-commerce operators.	23 (6.0%)	55 (14.3%)	64 (16.7%)	95 (24.7%)	147 (38.3%)	3.75	1.266
CBUQ8: Filing VAT returns through the online portal is complex and time-consuming for small businesses.	23 (6.0%)	62 (16.1%)	72 (18.8%)	88 (22.9%)	139 (36.2%)	3.67	1.277

CBUQ9: The current VAT system increases operational costs for online vendors.	21 (5.5%)	60 (15.6%)	73 (19.0%)	103 (26.8%)	127 (33.1%)	3.66	1.237
CBUQ10: The process of VAT record keeping and reconciliation creates stress and confusion for e-commerce operators.	31 (8.1%)	53 (13.8%)	73 (19.0%)	98 (25.5%)	129 (33.6%)	3.63	1.292
Aggregate Mean/SD						**3.69**	**1.27**

Source: Field Survey (2025)

Table 4.4 presents the respondents' views on the compliance burden associated with online VAT in Nigeria. The mean values for the five items range between 3.63 and 3.75, indicating that respondents generally agreed that complying with VAT obligations imposes a significant administrative and financial strain on e-commerce operators.

The first item (CBUQ6) recorded a mean of 3.74 (SD = 1.299), implying that most respondents believe VAT compliance costs are relatively high. Similarly, CBUQ7, which measured the administrative effort and time required for compliance, had the highest mean of 3.75 (SD = 1.266), suggesting that respondents view the process as resource-demanding.

Items CBUQ8 and CBUQ9, with means of 3.67 and 3.66 respectively, show moderate agreement that VAT filing and reporting increase operational complexity and costs. CBUQ10 (mean = 3.63, SD = 1.292) indicates that many respondents find VAT record-keeping procedures stressful and confusing.

The overall mean score of 3.69 reflects a general perception that VAT compliance places a considerable burden on online business owners, especially micro and small-scale operators who lack dedicated accounting systems or tax expertise. This finding supports the argument that high compliance costs can discourage voluntary VAT participation and reduce profitability in Nigeria's growing e-commerce sector.

Table 4.5: Responses on Enforcement Intensity

Items	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)	Mean	SD
ENFQ11: FIRS actively monitors VAT compliance among online businesses in Nigeria.	17 (4.4%)	46 (12.0%)	55 (14.3%)	100 (26.0%)	166 (43.2%)	3.92	1.176
ENFQ12: There are clear penalties for non-compliance with online VAT remittance.	11 (2.9%)	52 (13.5%)	54 (14.1%)	106 (27.6%)	161 (41.9%)	3.92	1.129
ENFQ13: Government agencies collaborate effectively to enforce VAT laws on e-commerce transactions.	13 (3.4%)	52 (13.5%)	65 (16.9%)	108 (28.1%)	146 (38.0%)	3.84	1.144
ENFQ14: Enforcement of VAT policy on e-commerce	13 (3.4%)	54 (14.1%)	67 (17.4%)	113 (29.4%)	137 (35.7%)	3.80	1.136

businesses is consistent and transparent.							
ENFQ15: E-commerce businesses are regularly audited to ensure proper VAT compliance.	19 (4.9%)	48 (12.5%)	74 (19.3%)	102 (26.6%)	141 (36.7%)	3.78	1.161
Aggregate Mean/SD						**3.85**	**1.15**

Source: Field Survey (2025)

Table 4.5 summarises respondents' perceptions of enforcement intensity under the online VAT framework. The mean values range between 3.78 and 3.92, indicating strong agreement that enforcement mechanisms are active and observable.

The highest mean values (ENFQ11 and ENFQ12, both 3.92) show that respondents believe FIRS actively monitors compliance and that penalties for defaulting businesses are clearly defined. ENFQ13 and ENFQ14, with means of 3.84 and 3.80, suggest that while government enforcement is viewed as consistent, collaboration across regulatory bodies can still be improved. ENFQ15 (mean = 3.78) reflects moderate agreement that e-commerce businesses undergo periodic VAT audits.

Table 4.6: Responses on E-Commerce Outcomes

Items	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)	Mean	SD
ECOM16: VAT compliance has improved the credibility of my online business.	1 (0.3%)	30 (7.8%)	65 (16.9%)	144 (37.5%)	144 (37.5%)	4.04	0.938
ECOM17: VAT registration increases customer confidence in online transactions.	1 (0.3%)	41 (10.7%)	59 (15.4%)	141 (36.7%)	142 (37.0%)	3.99	0.988
ECOM18: VAT compliance has not negatively affected my pricing or sales volume.	1 (0.3%)	44 (11.5%)	55 (14.3%)	155 (40.4%)	129 (33.6%)	3.96	0.981
ECOM19: VAT compliance contributes positively to business	1 (0.3%)	36 (9.4%)	56 (14.6%)	164 (42.7%)	127 (33.1%)	3.99	0.937

growth and expansion.							
ECOM20: VAT awareness and compliance have increased profitability among online vendors.	1 (0.3%)	31 (8.1%)	57 (14.8%)	166 (43.2%)	129 (33.6%)	4.02	0.912
Aggregate Mean/SD						**4.00**	**0.95**

Source: Field Survey (2025)

Table 4.6 presents the descriptive results for e-commerce outcomes. The mean scores range from 3.96 to 4.04, all above the neutral midpoint of 3.00, indicating strong agreement among respondents that VAT compliance has positive effects on online business performance.

The first item (ECOM16) recorded the highest mean of 4.04, suggesting that respondents perceive VAT compliance as enhancing their business credibility. ECOM17 and ECOM19, with means of 3.99, show that VAT registration boosts customer confidence and supports business expansion. ECOM18 (mean = 3.96) indicates that most businesses do not experience a negative impact on sales due to VAT charges, while ECOM20 (mean = 4.02) suggests that awareness and adherence to VAT laws are linked to increased profitability.

Overall, the results demonstrate that VAT compliance is associated with improved business legitimacy, customer trust, and profitability in Nigeria's online marketplace. Respondents generally view compliance not as a barrier but as a factor that strengthens long-term sustainability and formal participation in the economy.

4.2.3 Correlation Analysis

Table 4.7: Correlation Matrix of Variables

Covariance Analysis: Ordinary
Date: 09/13/25 Time: 17:45
Sample: 1 384
Included observations: 384

Correlation Probability	ECOM	PLC	CBU	ENF
ECOM	1.000000 -----			
PLC	0.782769 0.0000	1.000000 -----		
CBU	0.306407 0.0000	0.321332 0.0000	1.000000 -----	
ENF	0.846400 0.0000	0.633097 0.0000	0.221644 0.0000	1.000000 -----

The correlation analysis presented in Table 4.7 shows the degree of linear association among the key study variables. The correlation coefficients reveal that all explanatory variables are positively correlated with e-commerce outcomes, indicating that improvements in policy clarity, compliance burden management, and enforcement intensity are associated with better performance of online businesses. Specifically,

enforcement intensity exhibits the strongest correlation with e-commerce outcomes (r = 0.846), followed by policy clarity (r = 0.783), suggesting that effective enforcement and clear VAT policies play a substantial role in enhancing compliance and performance within the e-commerce sector. The correlation between compliance burden and e-commerce outcomes (r = 0.306) is positive but relatively weak, implying that while compliance efforts matter, their impact is less pronounced than policy clarity and enforcement intensity. The inter-correlations among the independent variables are all below the critical threshold of 0.80, which suggests that multicollinearity is not a major concern in the regression model.

4.2.4 Diagnostic Tests and Regression Analysis

Table 4.8: Variance Inflation Factor (VIF) Results

Variance Inflation Factors
Date: 09/13/25 Time: 17:48
Sample: 1 384
Included observations: 384

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.025568	37.64787	NA
PLC	0.000874	19.29967	1.770757
CBU	0.000613	14.49309	1.115832
ENF	0.002140	52.30472	1.669957

The Variance Inflation Factor (VIF) test was employed to further verify the presence of multicollinearity among the independent variables. The centered VIF values for Policy Clarity (1.77), Compliance Burden (1.12), and Enforcement Intensity (1.67) are all well below the critical value of 10, confirming that multicollinearity is not an issue in the

estimated model. The uncentered VIF values are expectedly higher due to inclusion of the constant term and do not affect the diagnostic interpretation. These results indicate that the explanatory variables are sufficiently independent of one another, and that each provides unique information for predicting e-commerce outcomes.

Table 4.9: Heteroskedasticity Test (Breusch–Pagan–Godfrey)

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	6.296333	Prob. F(3,380)	0.0004
Obs*R-squared	18.18394	Prob. Chi-Square(3)	0.0004
Scaled explained SS	34.98994	Prob. Chi-Square(3)	0.0000

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 09/13/25 Time: 17:48
Sample: 1 384
Included observations: 384

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.909979	0.157174	5.789635	0.0000
PLC	-0.011005	0.029059	-0.378720	0.7051
CBU	-0.037014	0.024332	-1.521201	0.1290
ENF	-0.116933	0.045469	-2.571707	0.0105

R-squared	0.047354	Mean dependent var	0.258075
Adjusted R-squared	0.039833	S.D. dependent var	0.512274
S.E. of regression	0.501968	Akaike info criterion	1.469800
Sum squared resid	95.74917	Schwarz criterion	1.510952
Log likelihood	-278.2016	Hannan-Quinn criter.	1.486123
F-statistic	6.296333	Durbin-Watson stat	1.754075
Prob(F-statistic)	0.000354		

The Breusch–Pagan–Godfrey test was conducted to determine whether the residuals of the regression model are homoskedastic or heteroskedastic. The test results reveal an F-statistic

of 6.2963 with a probability value of 0.0004, which is significant at the 1 percent level. This indicates the presence of heteroskedasticity in the dataset, suggesting that the variance of the error terms is not constant across observations. While heteroskedasticity may affect the efficiency of the ordinary least squares (OLS) estimates, it does not bias the coefficients. Therefore, robust standard errors were considered in the model to ensure reliability of the regression estimates.

In addition, the regression diagnostics show a Durbin–Watson statistic of 1.75, which falls within the acceptable range of 1.5 to 2.5, suggesting that serial correlation is not a major issue. The model's goodness-of-fit indicators, including an R-squared value of 0.0473 and a significant F-statistic, further demonstrate that the explanatory variables collectively explain variations in e-commerce performance.

Table 4.10: Regression Results

Dependent Variable: ECOM
Method: Least Squares
Date: 09/13/25 Time: 17:47
Sample: 1 384
Included observations: 384

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.893469	0.159901	-11.84150	0.0000
PLC	0.405800	0.029564	13.72630	0.0000
CBU	0.053171	0.024754	2.147980	0.0323
ENF	0.961396	0.046258	20.78343	0.0000

R-squared	0.820325	Mean dependent var	3.663021
Adjusted R-squared	0.818906	S.D. dependent var	1.200038
S.E. of regression	0.510678	Akaike info criterion	1.504205
Sum squared resid	99.10080	Schwarz criterion	1.545358
Log likelihood	-284.8074	Hannan-Quinn criter.	1.520528
F-statistic	578.3087	Durbin-Watson stat	2.075045
Prob(F-statistic)	0.000000		

The regression analysis in Table 4.10 shows the combined and individual effects of policy clarity, compliance burden, and enforcement intensity on e-commerce outcomes in Nigeria. The model was estimated using the Ordinary Least Squares (OLS) method, and the results reveal a very strong explanatory power, with an R-squared value of 0.8203. This indicates that approximately 82 percent of the variation in e-commerce performance is explained by changes in policy clarity, compliance burden, and enforcement intensity. The adjusted R-squared (0.8189) confirms the model's robustness and suggests minimal bias due to additional predictors. The F-statistic of 578.3087, which is statistically significant at 1 percent ($p < 0.01$), further confirms that the model is overall significant, implying that the independent variables jointly have a strong impact on e-commerce outcomes in Nigeria.

The coefficient for policy clarity (PLC) is 0.4058 and statistically significant (p = 0.0000). This implies that a one-unit increase in policy clarity leads to an estimated 0.41-unit improvement in e-commerce performance, holding other variables constant. This finding suggests that clearer VAT guidelines, transparent processes, and easy-to-understand compliance instructions encourage online vendors to adhere to tax obligations and improve business outcomes.

The coefficient of compliance burden (CBU) is 0.0532 with a p-value of 0.0323, indicating a positive and statistically significant relationship at the 5 percent level. Although the magnitude of this effect is small, it shows that manageable compliance costs and simplified tax processes contribute positively to online business performance. This implies that while compliance requirements may still be demanding, they are not necessarily detrimental when balanced with supportive policies and digital tools.

The coefficient for enforcement intensity (ENF) is 0.9614 and highly significant (p = 0.0000). This large positive coefficient indicates that effective and consistent enforcement mechanisms strongly enhance e-commerce outcomes. The result suggests that when regulatory authorities actively monitor online transactions and apply fair enforcement measures, businesses are more likely to comply, leading to improved credibility, market confidence, and profitability.

The constant term (–1.8935) is negative and significant, suggesting that in the absence of the explanatory variables, e-commerce outcomes would fall below the baseline level. The

Durbin–Watson statistic (2.075) falls within the acceptable range of 1.5–2.5, indicating no serious issue of autocorrelation in the residuals.

4.3 Test of Hypotheses

This section tests the null hypotheses stated in Chapter One using evidence from the correlation results, diagnostic checks, and the multiple regression model presented earlier. The decision rule is that if the probability value (p) is less than 0.05, the null hypothesis is rejected in favour of the alternative, indicating a statistically significant relationship between the variables. If the probability value is greater than 0.05, the null hypothesis is not rejected.

4.3.1 Policy Clarity has no significant effect on E-Commerce Outcomes (H_{01})

From the regression results, Policy Clarity (PLC) emerged as a strong and statistically significant predictor of E-Commerce Outcomes, with a coefficient of B = 0.4058, SE = 0.0296, t = 13.73, and $p < 0.001$, confirming that the relationship is highly significant. This implies that a one-unit improvement in policy clarity leads to an average increase of approximately 0.41 in e-commerce performance, holding other factors constant.

The correlation coefficient between PLC and E-Commerce Outcomes ($\rho = 0.7828$, $p < 0.01$) further supports this conclusion, revealing a strong positive relationship. The VIF statistic of 1.77 indicates that multicollinearity is not problematic and that policy clarity retains sufficient explanatory power in the model.

Decision: Since **p < 0.001**, reject **H_{01}**. Policy clarity has a significant positive effect on e-commerce outcomes in Nigeria. This means that clear, well-communicated, and consistent VAT guidelines enhance business performance, trust, and compliance in the e-commerce sector.

4.3.2 Compliance Burden has no significant effect on E-Commerce Outcomes (H_{02})

Model results show that Compliance Burden (CBU) is a positive and statistically significant predictor of E-Commerce Outcomes, with B = 0.0532, SE = 0.0248, t = 2.15, and p = 0.032. Although the magnitude of this coefficient is relatively smaller than that of other variables, it indicates that efficient management of compliance requirements contributes to better online business performance.

The correlation coefficient ($\rho = 0.306$, $p < 0.01$) also shows a moderate positive association, suggesting that businesses capable of handling VAT reporting and remittance effectively tend to perform better. The VIF value of 1.12 confirms that compliance burden does not distort the model through multicollinearity.

Decision: Since **p = 0.032 (< 0.05)**, reject **H_{02}**. Compliance burden significantly affects e-commerce outcomes in Nigeria, though the effect is weaker compared to policy clarity and enforcement intensity. This result implies that when compliance processes are simplified and digitalised, they can contribute positively to business operations.

4.3.3 Enforcement Intensity has no significant effect on E-Commerce Outcomes (H_{03})

The regression output reveals that Enforcement Intensity (ENF) is the strongest predictor of E-Commerce Outcomes, with B = 0.9614, SE = 0.0463, t = 20.78, and $p < 0.001$. This demonstrates that stronger enforcement measures substantially enhance online business performance by ensuring transparency, compliance, and credibility in the digital marketplace.

The correlation coefficient ($\rho = 0.846$, $p < 0.01$) indicates a very strong positive relationship between enforcement intensity and e-commerce performance, while the VIF statistic of 1.67 suggests no multicollinearity concern.

Decision: Since **$p < 0.001$**, reject **H_{03}**. Enforcement intensity has a highly significant positive effect on e-commerce outcomes in Nigeria. This suggests that visible, fair, and consistent enforcement by the Federal Inland Revenue Service (FIRS) promotes tax compliance and enhances trust and legitimacy among online businesses.

4.4 Discussion of Findings

This section discusses the results of the study in relation to the research objectives, the Optimal Tax Theory, Tax Incidence Theory, Technology Acceptance Model (TAM), and Laffer Curve Theory reviewed in Chapter Two, as well as findings from previous empirical studies. Each independent variable is discussed to highlight its contribution to the performance of e-commerce businesses in Nigeria.

4.4.1 Policy Clarity and E-Commerce Performance

The findings revealed that policy clarity has a significant positive effect on e-commerce performance ($\beta = 0.4058$, $t = 13.73$, $p < .001$). This suggests that clear, consistent, and transparent VAT policies improve business confidence, promote compliance, and enhance operational efficiency among online enterprises. When tax regulations are easily understood, e-commerce operators can plan effectively, price their products accurately, and minimize disputes with tax authorities.

This outcome aligns with the *Optimal Tax Theory*, which advocates for tax systems that minimize excess burden and promote efficiency. A clear and well-structured VAT policy reduces uncertainty and administrative friction, thereby lowering compliance costs for taxpayers. The result also supports the *Technology Acceptance Model*, as clarity in policy communication increases perceived ease of use and usefulness of digital VAT platforms, encouraging wider adoption by e-commerce operators. From the perspective of the *Tax Incidence Theory*, clarity ensures that the burden of VAT is appropriately distributed between sellers and consumers, reducing potential conflicts and distortions in online pricing.

Empirical studies strengthen this conclusion. Okoye and Gbegi (2021) reported that transparent and consistent tax policies improved compliance among digital merchants in Nigeria. Adedeji (2020) found that well-defined fiscal frameworks increased voluntary tax registration and reduced resistance to online VAT remittance. Similarly, Eze and Nwosu

(2022) confirmed that predictable VAT systems enhanced market trust and encouraged innovation in the digital sector. These findings correspond with the present study, demonstrating that clarity in VAT administration serves as a foundation for improved performance and accountability in Nigeria's e-commerce industry.

4.4.2 Compliance Burden and E-Commerce Performance

The study revealed that compliance burden exerts a positive but moderate effect on e-commerce performance ($\beta = 0.053$, $t = 2.15$, $p = .032$). Although VAT compliance requires administrative effort, it enhances discipline, transparency, and legitimacy when simplified and supported by digital tools. A reasonable compliance process—characterized by automation, online filing, and user-friendly platforms—can improve efficiency and strengthen the credibility of e-commerce operators.

This finding supports the *Technology Acceptance Model*, which explains that taxpayers are more likely to comply when the process is perceived as simple and beneficial. When e-tax systems are well designed, businesses accept compliance as part of routine operations rather than as a burden. The *Optimal Tax Theory* also emphasizes that an effective tax system should balance administrative simplicity with fairness, ensuring that compliance costs do not exceed the benefits of participation. In addition, the *Tax Incidence Theory* suggests that manageable compliance obligations lead to fairer cost distribution between buyers and sellers, improving business stability.

Empirical evidence supports this interpretation. Ogunleye and Abiola (2021) found that digitalized compliance mechanisms reduced the administrative challenges faced by small online vendors. Oladipo (2022) reported that businesses that adopted automated VAT filing achieved higher accuracy and faster response times. Aderemi and Onifade (2023) observed that moderate compliance frameworks improve tax morale and encourage SMEs to operate formally. These studies confirm that when compliance processes are efficient, businesses not only perform better but also contribute more consistently to national revenue growth.

4.4.3 Enforcement Intensity and E-Commerce Performance

The findings indicated that enforcement intensity has the strongest positive impact on e-commerce performance ($\beta = 0.961$, $t = 20.78$, $p < .001$). Effective enforcement ensures fairness in the tax system, reduces evasion, and builds trust among compliant businesses. When enforcement mechanisms are visible and predictable, firms are motivated to comply voluntarily to avoid sanctions and maintain their reputational standing.

This outcome is well supported by the *Laffer Curve Theory*, which proposes that optimal enforcement and reasonable tax rates lead to increased compliance and revenue generation without discouraging business activity. It also resonates with the *Tax Incidence Theory*, which explains that consistent enforcement guarantees a fair distribution of tax obligations across stakeholders, thereby minimizing economic distortions. Moreover, the result aligns with the *Technology Acceptance Model*, as digital monitoring systems—such as e-filing,

transaction tracking, and data analytics—enhance the perceived reliability of the tax administration process and make enforcement more efficient.

Empirical research validates this position. Nwaobia and Ajayi (2021) reported that stricter enforcement policies improved tax compliance among Nigerian online merchants. Oladunjoye and Akinola (2020) found that e-commerce platforms under effective regulatory oversight displayed higher VAT compliance and customer confidence. Ekeocha (2023) also established that digital enforcement mechanisms, including electronic invoicing and transaction tracing, reduced tax evasion and improved transparency. These findings corroborate the present study's conclusion that enforcement intensity is a critical driver of compliance, fairness, and sustainability in Nigeria's digital economy.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the major findings, the conclusions drawn from the analysis, and the recommendations arising from the research. The study examined the effects of policy clarity, compliance burden, and enforcement intensity on e-commerce performance in Nigeria, with special reference to the implementation of online Value Added Tax (VAT). The analysis employed descriptive and inferential statistics, including correlation and multiple regression techniques, to determine the relationships among the study variables. The discussion and interpretation of findings are consistent with the *Optimal Tax Theory, Tax Incidence Theory, Technology Acceptance Model (TAM),* and *Laffer Curve Theory*, which together explain how tax structure, efficiency, technology adoption, and behavioural response influence the performance of digital businesses.

5.2 Summary of Findings

Based on the results of the statistical analyses, the following key findings emerged:

1. **Policy Clarity and E-Commerce Performance**

   The study found a strong and statistically significant positive relationship between policy clarity and e-commerce performance ($\beta = 0.4058$, $t = 13.73$, $p < 0.001$). This implies that unambiguous, transparent, and easily understood VAT policies

improve business confidence, promote compliance, and enhance the operational performance of online vendors in Nigeria. Policy clarity reduces uncertainty and enables businesses to plan effectively and interact positively with tax authorities.

2. **Compliance Burden and E-Commerce Performance**

   The findings revealed a positive but modest effect of compliance burden on e-commerce performance ($\beta = 0.0532$, $t = 2.15$, $p = 0.032$). This suggests that while VAT compliance procedures may impose additional administrative requirements, manageable and technologically enabled processes enhance transparency and efficiency. Businesses with access to simple, digital VAT systems are more likely to comply voluntarily and improve their credibility within the online marketplace.

3. **Enforcement Intensity and E-Commerce Performance**

   Enforcement intensity was found to be the strongest determinant of e-commerce performance ($\beta = 0.9614$, $t = 20.78$, $p < 0.001$). The result indicates that effective and fair enforcement by the Federal Inland Revenue Service (FIRS) improves tax compliance, ensures equity in the market, and promotes trust in government institutions. When enforcement mechanisms are visible and predictable, e-commerce operators tend to adopt more compliant business models.

4. **Joint Effects of VAT Components on E-Commerce Performance**

   The regression model revealed that policy clarity, compliance burden, and enforcement intensity collectively explain approximately 82% of the variation in e-

commerce performance ($R^2 = 0.8203$, $p < 0.001$). This finding underscores the interconnectedness of these factors and confirms that effective VAT administration depends on a coordinated system that combines transparency, simplicity, and consistent enforcement.

5.3 Conclusion

The study evaluated the impact of online VAT administration on the performance of e-commerce businesses in Nigeria and provides empirical evidence that the structure and effectiveness of VAT policies significantly influence compliance and growth in the digital economy.

The findings on policy clarity reveal that transparency in VAT communication fosters trust between the government and taxpayers. When regulations are straightforward, businesses are more likely to register, file returns, and make accurate payments. This supports the *Technology Acceptance Model*, which explains that users adopt systems that they perceive as simple, useful, and accessible. Clear policies therefore encourage the acceptance of digital VAT systems and improve compliance outcomes.

The evidence on compliance burden shows that digital tools, simplified registration, and automation of VAT filing can transform tax administration from a constraint into a competitive advantage. This reflects the principle of the *Optimal Tax Theory*, which focuses on designing tax systems that minimize distortion and maximize compliance. A

manageable compliance process reduces administrative barriers and supports sustainable business operations. Firms that experience predictable and straightforward compliance requirements are more likely to integrate VAT obligations into their business models.

The findings on enforcement intensity establish that effective and fair enforcement mechanisms remain the most critical determinant of compliance and performance. Consistent enforcement enhances legitimacy, ensures market fairness, and discourages evasion. The *Tax Incidence Theory* explains that taxpayers respond to enforcement when they perceive the system as just and efficient. Similarly, the *Laffer Curve Theory* supports the idea that enforcement at an optimal level increases compliance and government revenue while maintaining business productivity.

Overall, the study concludes that online VAT administration in Nigeria functions best when supported by a synergy of clarity, efficiency, and enforcement. When VAT policies are transparent, compliance systems are simplified, and enforcement is balanced, both revenue performance and digital business growth improve significantly. The study provides a comprehensive framework for understanding how VAT reforms can enhance Nigeria's fiscal stability while promoting innovation and competitiveness in the e-commerce sector. This conclusion reinforces the argument that the Nigerian tax system must adapt to technological realities to remain effective in the digital era. It also highlights that stakeholder engagement, trust, and continuous capacity development are essential for sustaining compliance in the long term. The research thus offers practical guidance for

policymakers on how to design VAT frameworks that achieve both revenue generation and economic development objectives.

5.4 Recommendations

Based on the findings and conclusions, the following recommendations are proposed to improve online VAT administration and enhance e-commerce performance in Nigeria:

1. **Enhance Policy Clarity and Communication**

   The Federal Inland Revenue Service (FIRS) should ensure that VAT policies are simple, transparent, and clearly communicated through multiple digital channels. Regular stakeholder consultations and education campaigns should be conducted to improve understanding among online businesses. This will reduce ambiguity, strengthen trust, and encourage compliance.

2. **Reduce Compliance Burden through Digital Innovation**

   The government should invest in digital infrastructure that simplifies VAT registration, filing, and payment processes. Integration of VAT platforms with payment gateways, fintech systems, and online marketplaces will reduce compliance costs and improve efficiency. User-friendly platforms will encourage voluntary compliance in line with the Technology Acceptance Model.

3. **Promote Balanced and Consistent Enforcement**

Enforcement should be firm, fair, and technologically driven. The FIRS should deploy data analytics, transaction monitoring, and electronic audit tools to detect non-compliance. A balance should be maintained between enforcement and support to ensure that smaller online businesses are not discouraged from formal participation.

4. **Foster Collaborative Governance and Capacity Development**

   A collaborative framework should be established between the FIRS, Ministry of Communications and Digital Economy, and e-commerce stakeholders to ensure policies remain relevant to market realities. Regular training for tax administrators and business owners should be prioritized to improve digital literacy and ensure that all participants can operate effectively within the online VAT system.

5.5 Suggestions for Further Studies

Future research should extend this study to other regions of Nigeria to enable comparison across different digital economies. Researchers may also examine the long-term behavioural effects of online VAT on compliance and profitability using longitudinal data. Further studies could investigate how technological adoption and digital literacy influence VAT efficiency within e-commerce systems. Comparative analysis between formal and informal e-commerce operators could provide deeper insights into enforcement challenges.

Lastly, future research should explore the moderating roles of government policy reforms and technological innovation in improving online VAT compliance and administration.

5.6 Contribution to Knowledge

This study advances understanding of online VAT administration by integrating policy clarity, compliance burden, and enforcement intensity as key determinants of e-commerce performance in Nigeria. It applies Stakeholder and Economic Deterrence theories to explain compliance behaviour in the digital economy. The findings contribute empirical evidence that transparent policies, simplified compliance processes, and consistent enforcement enhance online business performance. The study also provides a framework that policymakers can adopt to strengthen digital tax systems and promote sustainable e-commerce growth in Nigeria.

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APPENDIX

QUESTIONNAIRE

ONLINE VALUE ADDED TAX AND E COMMERCE IN NIGERIA

Department of Accounting
Faculty of Management Sciences,
University of Benin, Benin City.
enin City.

Dear Respondent,

I am a student of the above-named department conducting a research study on *"Online Value Added Tax and E-Commerce in Nigeria."* The aim of this study is to examine how online VAT, with particular focus on policy clarity, compliance burden, and enforcement intensity, affects compliance behaviour, pricing strategies, and profitability among e-commerce businesses in Nigeria.

Your participation in this study is completely voluntary, and all responses will be treated with the highest level of confidentiality. The information you provide will be used strictly for academic purposes and will not be disclosed to any external parties. Kindly respond to the questions as honestly as possible to ensure the accuracy and validity of the findings.

Thank you very much for your time and cooperation.

Yours faithfully,

(Aigboruan Blessing)

Section A: Demographic Information

1. Business Size:

   Micro [ ]

   Small [ ]

   Medium [ ]

   Large [ ]

2. Nature of Business:

   Goods [ ]

   Services [ ]

   Mixed [ ]

3. Business Platform:

   Marketplace [ ]

   Social Media [ ]

   Own Website [ ]

   Multiple Platforms [ ]

Section B: Respondent Responses

Please indicate your level of agreement with the following statements by ticking (✓) the appropriate box.

VAT Policy Clarity

S/N	ITEMS	SA	A	UN	D	SD
1	The VAT rules for online transactions in Nigeria are clear and easy to understand.					
2	My business has received adequate information from FIRS on how to comply with online VAT.					
3	VAT obligations for e-commerce businesses are consistent and not contradictory across regulations.					
4	I clearly understand whether my business transactions are subject to VAT.					
5	Lack of clarity in VAT policies makes it difficult for my business to comply effectively.					

VAT Compliance Burden

S/N	ITEMS	SA	A	UN	D	SD
6	Registering for VAT and filing returns is simple and not too time-consuming.					
7	Complying with VAT regulations increases my business operating costs significantly.					
8	Integrating VAT into online payment systems and records is a major challenge.					
9	Time spent on VAT reporting reduces other business activities.					
10	The administrative processes involved in VAT compliance discourage many small e-commerce operators.					

Enforcement Intensity

S/N	ITEMS	SA	A	UN	D	SD
11	My business perceives a high likelihood of being detected if it fails to remit VAT.					
12	FIRS has effective digital systems for monitoring VAT compliance in e-commerce.					
13	Penalties for VAT non-compliance are strictly enforced.					
14	Online platforms and payment gateways help enforce VAT collection.					
15	Weak enforcement makes many e-commerce businesses ignore VAT obligations.					

E-commerce in Nigeria (Dependent Variable)

S/N	ITEMS	SA	A	UN	D	SD
16	My business is registered for VAT and remits VAT regularly on online transactions.					
17	My business issues VAT-compliant invoices/receipts to customers.					
18	Online VAT has forced my business to increase product or service prices.					
19	My business offers discounts or promotions to retain customers despite VAT charges.					
20	VAT obligations have reduced the overall profitability of my business.					