

**DIGITAL ECONOMY AND TAX ADMINISTRATION  
EFFECTIVENESS**



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BENIN CITY.**

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**BEING A PROJECT WORK SUBMITTED TO THE DEPARTMENT OF  
ACCOUNTING, FACULTY OF MANAGEMENT SCIENCES, UNIVERSITY OF  
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FOR THE AWARD OF THE BACHELOR OF SCIENCE (B.SC) DEGREE IN  
ACCOUNTING**

**OCTOBER, 2025.**

## **DECLARATION**

I, **Uyovwiovwa Olivia Aghogho**, declare that, this study is based on a study undertaken by me in the Department of Accounting, Faculty of Management Sciences, University of Benin, Benin City, under the supervision of Dr. Ehima of the Department of Accounting, Management Sciences, University of Benin, Benin City, Nigeria.

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## **CERTIFICATION**

We, certify that this research project was carried out by Uyovwiovwa Olivia Aghogho in the Department of Accounting, Faculty of Management Sciences, University of Benin, Benin City, Nigeria. It is adequate in scope and quality in partial fulfilment of the requirements for the award of Bachelor of Science (BSc.) degree in Accounting.

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**Prof. O. Obaretin**  
**(Head of Department)**

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**Date**

## **DEDICATION**

This project work is dedicated to God Almighty for His abundant grace in my life and for seeing me through my academic pursuit and aspirations. He has been my source of strength and on his wings only I have soared.

## **ACKNOWLEDGEMENTS**

First and foremost, I would like to express my deepest gratitude to God, who has blessed me with the ability, resources and resilience to complete this project. May this achievement be a testament of his guidance and grace. I would like to express my heartfelt gratitude to these individuals who have supported me throughout this project.

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## **ABSTRACT**

The study examines the influence of the digital economy on the effectiveness of tax administration in Nigeria. Despite the rapid growth of Nigeria's digital sector—valued at over

₦150 trillion in transactions by 2020—the nation's tax-to-GDP ratio remains one of the lowest in Africa, at about 6%. This paradox underscores inefficiencies in traditional tax administration and highlights the need for digital transformation. The research employed a survey design, drawing data from 100 respondents comprising staff of the Federal Inland Revenue Service (FIRS), State Internal Revenue Services (SIRS), registered taxpayers, and tax consultants. Primary data were collected through a structured questionnaire validated by experts, with reliability confirmed via Cronbach's Alpha (0.78). Descriptive statistics, Chi-square tests, and multiple regression analysis were used for data analysis.

Findings revealed that the digital economy significantly enhances tax administration effectiveness by improving transparency, expanding the tax base, and reducing opportunities for corruption and leakages. Technology infrastructure was found to play a vital role, though challenges such as poor internet connectivity and weak system integration persist. Furthermore, a strong positive relationship was established between digital economy adoption and tax revenue performance, indicating that greater digital inclusion promotes sustainable revenue mobilization. The study concludes that while Nigeria has made progress through digital tax reforms, infrastructural and awareness gaps still hinder full optimization. It recommends increased investment in ICT infrastructure, improved taxpayer sensitization, and stronger institutional capacity to leverage digital tools for efficient and transparent tax administration.

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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 BACKGROUND OF THE STUDY**

Tax administration effectiveness plays a critical role in national development as it provides the primary mechanism through which governments mobilize domestic revenue to fund public goods and services. Globally, effective tax administration is regarded as a foundation for fiscal sustainability, economic stability, and the social contract between citizens and the state. However, despite its importance, tax administration effectiveness continues to face persistent challenges across countries, particularly in developing economies. These challenges include low tax compliance, inefficiencies in collection systems, high administrative costs, corruption, and inadequate use of modern technology (Bird & Zolt, 2008). The effectiveness of tax administration is influenced by several interrelated factors, including the institutional capacity of revenue authorities, the quality of infrastructure supporting tax systems, the level of taxpayer awareness, and the extent of voluntary compliance. In recent years, the adoption of digital technologies has also emerged as a critical determinant of tax administration effectiveness. The digital economy—characterized by e-commerce, digital payments, online service delivery, and the use of big data—presents both opportunities and risks for tax systems worldwide. On one hand, digital platforms expand the tax base and offer tools for improved compliance monitoring; on the other hand, they complicate tax administration effectiveness by introducing challenges in monitoring cross-border and intangible transactions (OECD, 2020; IMF, 2021). Many developed countries have responded to these challenges by transforming their tax systems through digital innovations. Estonia, for instance, processes nearly all tax returns electronically with an average turnaround time of five minutes (OECD, 2018). Singapore and the United Kingdom have also recorded

substantial reductions in compliance costs and improvements in revenue collection effectiveness through digital tax reforms (HM Revenue & Customs, 2019). These examples demonstrate how the integration of digital tools can enhance the effectiveness of tax administration when supported by robust infrastructure and institutional capacity. In Africa, while there is growing adoption of digital technologies, many tax authorities continue to grapple with weak infrastructure, limited internet penetration, and low levels of trust in public institutions. Countries like Kenya have made progress through mobile money innovations such as M-Pesa, which have improved revenue collection and financial inclusion. However, in several other African states, tax systems remain largely traditional, with limited ability to capture revenues from fast-growing digital economic activities.

In Nigeria, the problem is even more pronounced. The country has experienced remarkable growth in its digital economy, driven by rapid internet penetration, widespread use of mobile phones, and the expansion of e-commerce and digital financial services (NCC, 2021; CBN, 2021). Digital payment transactions alone were valued at over ₦150 trillion in 2020, while e-commerce platforms like Jumia and Konga contributed to a sector worth \$12 billion (McKinsey & Company, 2020). Yet, despite these impressive figures, Nigeria's tax-to-GDP ratio remains at approximately 6%, far below the African average of 16% and the global benchmark of 15% (FIRS, 2021). This paradox highlights a fundamental weakness in the effectiveness of tax administration in Nigeria. Traditional methods—characterized by manual filing, cash-based payments, and paper-based record keeping—have proven inadequate for capturing the scale and diversity of economic activities in the digital age. Factors such as poor infrastructure, low voluntary compliance, fragmented data systems, and corruption further compound the problem. Although the Federal Inland Revenue Service (FIRS) has introduced reforms

such as the Integrated Tax Administration System (ITAS), and state governments like Lagos have made efforts through digital platforms, these initiatives remain at preliminary stages and are yet to deliver transformative results. The rapid expansion of Nigeria's digital economy presents both opportunities and challenges for tax administration effectiveness. While it has the potential to widen the tax base and provide data for improved monitoring, it also creates complexities in areas such as cross-border taxation, taxation of intangible assets, and compliance enforcement among digital economy participants. These realities underscore the need for empirical investigation into how the digital economy influences tax administration effectiveness in Nigeria, and what strategies can be adopted to address the identified gaps.

## **1.2 STATEMENT OF THE RESEARCH PROBLEM**

Effective tax administration remains a cornerstone of sustainable development, yet Nigeria continues to struggle with low effectiveness, poor compliance, and inadequate revenue mobilization. The nation's tax-to-GDP ratio, at about 6%, is one of the lowest in Africa and falls significantly short of the 15% benchmark recommended by the IMF for fiscal sustainability (FIRS, 2021). This situation reflects deep-rooted problems in the country's tax administration effectiveness, including weak institutional capacity, high administrative costs, limited accessibility, and vulnerability to corruption and fraud. Globally, evidence suggests that the adoption of digital technologies can significantly improve tax administration effectiveness by reducing costs, increasing compliance, and broadening the tax base (OECD, 2018; HMRC, 2019). However, in Nigeria, the integration of digital technologies into tax systems has been slow and fragmented. Although the digital economy has expanded rapidly—valued at ₦150 trillion in transaction volume by 2020 (CBN, 2021)—tax authorities have failed to capture a

significant portion of these activities within the formal tax net. This misalignment between the growth of the digital economy and the performance of tax administration effectiveness exposes Nigeria to substantial revenue losses.

The problem is compounded by several critical gaps. First, there is limited empirical evidence on how participation in the digital economy influences taxpayer compliance behavior in Nigeria. Second, the mechanisms through which digital technologies can be effectively integrated into tax administration effectiveness remain poorly defined. Third, while global experiences highlight the benefits of digital tax reforms, little is known about their applicability within Nigeria's unique institutional, infrastructural, and socio-economic context. The inability to address these issues has serious implications for Nigeria's fiscal sustainability. With rising debt levels, infrastructure deficits, and growing financing needs, the country cannot afford to overlook the revenue potential of the digital economy. The COVID-19 pandemic further revealed the limitations of traditional, paper-based systems and underscored the urgency of digital transformation for tax administration effectiveness. It is against this backdrop that this study, titled "Digital Economy and Tax Administration Effectiveness," seeks to examine the influence of the digital economy on the effectiveness of tax administration in Nigeria, with the aim of providing evidence-based recommendations for improving revenue mobilization in the digital era.

### **1.3 OBJECTIVES OF THE STUDY**

The objectives of this study are to:

1. Examine the impact of the digital economy on the effectiveness of tax administration in Nigeria.

2. Assess the effect of technology infrastructure on tax administration effectiveness.
3. Determine the relationship between digital economy adoption and tax revenue performance in Nigeria.

#### **1.4 RESEARCH QUESTIONS**

1. What is the impact of the digital economy on the effectiveness of tax administration in Nigeria?
2. How does technology infrastructure influence tax administration effectiveness in Nigeria?
3. What relationship exists between digital economy adoption and tax revenue performance in Nigeria?

#### **1.5 STATEMENT OF HYPOTHESES**

The study will test the following null hypotheses:

H<sub>01</sub>: The digital economy has no significant impact on the effectiveness of tax administration in Nigeria.

H<sub>02</sub>: Technology infrastructure has no significant effect on tax administration effectiveness in Nigeria.

H<sub>03</sub>: There is no significant relationship between digital economy adoption and tax revenue performance in Nigeria.

#### **1.6 JUSTIFICATION OF THE STUDY**

The justification for this study arises from the urgent need to strengthen Nigeria's domestic revenue mobilization in the face of rising expenditure demands, growing debt burdens, and persistent infrastructure deficits. Tax administration effectiveness remains

the most sustainable source of government revenue, yet Nigeria continues to record one of the lowest tax-to-GDP ratios in Africa, standing at about 6% compared to the continental average of 16% and the global benchmark of 15% (FIRS, 2021). This situation highlights fundamental weaknesses in the effectiveness of the tax system and makes it imperative to investigate new approaches to improving compliance. At the same time, the Nigerian economy has witnessed rapid growth in digital activities such as e-commerce, mobile payments, and online service provision. With digital transactions valued at over ₦150 trillion in 2020 (CBN, 2021), the digital economy now represents a significant share of the nation's economic activity. However, only a small portion of this value is captured within the tax net due to infrastructural, institutional, and regulatory gaps. This paradox underscores the need for a study that directly examines the link between the digital economy and tax administration effectiveness in Nigeria.

Furthermore, while global evidence shows that digital transformation can improve compliance, reduce leakages, and expand the tax base, the applicability of such experiences to Nigeria remains uncertain due to unique institutional and socio-economic realities. Limited empirical research exists in the Nigerian context to explain how digital tools such as e-filing, electronic payments, and digital monitoring platforms influence taxpayer behavior, compliance levels, and overall revenue performance. This study is therefore justified as it seeks to fill this gap by providing evidence-based insights on how Nigeria can leverage its growing digital economy to strengthen tax administration effectiveness.

In addition, the study is justified by its potential to support policymakers, particularly the Federal Inland Revenue Service (FIRS) and state revenue authorities, in designing reforms that align taxation with the realities of a digital age. For academics, the study expands literature on taxation and digital transformation in developing countries. For

practitioners, it provides a clearer understanding of how digital technologies can be deployed to overcome traditional challenges such as ineffectiveness, corruption, and low voluntary compliance.

## **1.7 SCOPE OF THE STUDY**

This study is focused on Nigeria, with particular emphasis on the Federal Inland Revenue Service (FIRS) as the principal body responsible for tax administration at the federal level. Attention is also given to selected state internal revenue services in order to highlight sub-national experiences with the adoption of digital tools in tax collection. By focusing on both the federal and state levels, the study provides a broader understanding of how digital economy activities are shaping tax administration effectiveness in different parts of the country. The study covers the period between 2015 and 2024. This time frame is considered significant because it represents a period of rapid digital transformation in Nigeria's financial and economic landscape. It coincides with major reforms such as the introduction of the Integrated Tax Administration System (ITAS), the Treasury Single Account (TSA), the Finance Acts of 2019 to 2022, and the National Digital Economy Policy and Strategy (NDEPS). It is also a period that witnessed an upsurge in the use of mobile banking, point-of-sale (POS) transactions, e-commerce platforms, and other digital financial services that have direct implications for tax administration effectiveness in the country. The population of the study consists of staff of the Federal Inland Revenue Service (FIRS), registered taxpayers, and tax consultants, as these groups are directly involved in the processes of tax administration, compliance, and advisory roles. A sample will be drawn from these categories using Cochran's formula to ensure representativeness and reliability of findings.

The content scope of this study is restricted to examining the relationship between the

digital economy and tax administration effectiveness in Nigeria. The independent variable is the digital economy, represented by indicators such as electronic payments, e-filing platforms, online business transactions, and supporting technology infrastructure. The dependent variable is tax administration effectiveness, measured in terms of revenue performance, compliance, effectiveness, and transparency. This scope does not extend to non-tax aspects of the digital economy such as digital entrepreneurship or innovation outside the taxation space. Instead, it narrows its focus to how digital economy activities and tools affect the ability of Nigerian tax authorities to mobilize revenue effectively.

## **1.8 SIGNIFICANCE OF THE STUDY**

The significance of this study lies in its potential contribution to knowledge, policy, and practice. Academically, the study will serve as a useful addition to existing literature on taxation and digital transformation in Nigeria. While much has been written on taxation in general, there is still limited research that examines the direct link between the growth of the digital economy and the effectiveness of tax administration in a developing country context. The findings of this research will therefore provide a reference point for students, scholars, and future researchers who may wish to undertake further studies in this area. The study is also significant to government and policymakers, especially the Federal Inland Revenue Service (FIRS), the Federal Ministry of Finance, and state internal revenue services. Nigeria currently records one of the lowest tax-to-GDP ratios in Africa despite the rapid growth of its digital economy. This study will provide evidence-based insights that can guide policy reforms aimed at improving revenue mobilization, integrating digital transactions into the tax net, and aligning Nigeria's tax system with global best practices in digital taxation.

In practical terms, the study is beneficial to tax administrators, taxpayers, and consultants.

To administrators, it will show how digital platforms can be used to strengthen effectiveness, reduce leakages, and improve compliance levels. To taxpayers, it highlights the benefits of using digital tax platforms such as convenience, transparency, and reduced transaction costs, which may encourage greater voluntary compliance. For tax consultants and practitioners, the findings of this study will provide valuable information on how digital technologies are reshaping the practice of taxation in Nigeria. More broadly, the study is of national importance as it points to ways in which domestic revenue generation can be enhanced to support Nigeria's economic development.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

The rapid advancement of digital technologies has reshaped global economies, transforming the way individuals, businesses, and governments interact. In particular, the digital economy has emerged as a key driver of growth and innovation, while also presenting new opportunities and challenges for public finance systems. Tax administration, being central to domestic resource mobilization, is directly affected by digital transformation. Effective tax administration is not only crucial for ensuring revenue adequacy but also for building trust between taxpayers and the state. This chapter reviews the literature on the digital economy and its implications for tax administration effectiveness. It discusses the concept of the digital economy, the concept of tax administration, the relationship between both, and the dimensions of effective tax administration.

#### **2.1 Concept of Digital Economy**

The digital economy represents a fundamental shift in how economic activities are conducted, driven by the proliferation of digital technologies and their integration into traditional business models. According to Brynjolfsson and McAfee (2014), the digital economy encompasses all economic activities that rely on digital technologies, including e-commerce, digital platforms, and data-driven business models. The Organisation for Economic Co-operation and Development (OECD, 2015) defines the digital economy as "the use of digital technologies to enable business models, new products and services, and new ways of creating value."

The digital economy is characterized by several distinctive features. First, it exhibits

network effects; where the value of a product or service increases as more people use it (Parker et al., 2016). Second, it demonstrates economies of scale and scope, allowing businesses to expand rapidly with minimal marginal costs. Third, it relies heavily on data as a key input for production and value creation (Zuboff, 2019). Fourth, it is characterized by high levels of innovation and disruption, with new technologies continuously reshaping market structures and business models.

## **2.2 Components of Digital Economy**

The digital economy comprises several interconnected components that work together to create value and drive economic growth. Bukht and Heeks (2017) identify three core components: digital/ICT sector, digital economy, and digitalized economy. The digital/ICT sector includes hardware manufacturing, software development, and telecommunications services. The digital economy encompasses emerging digital services such as e-commerce platforms, digital payments, and online advertising. The digitalized economy refers to traditional sectors that have been transformed by digital technologies, including digitized banking, manufacturing, and agriculture.

Furthermore, the digital economy includes platform-based businesses that facilitate interactions between multiple user groups, creating multi-sided markets (Kenney and Zysman, 2016). These platforms range from e-commerce marketplaces like Amazon and Alibaba to social media platforms like Facebook and Twitter, and ride-sharing services like Uber and Lyft.

### **2.2.1 Digital Transformation Trends**

Digital transformation has accelerated significantly in recent years, driven by several key trends. The proliferation of mobile devices and internet connectivity has enabled billions of people to access digital services and participate in the digital economy (ITU, 2021).

Cloud computing has democratized access to advanced computing resources, allowing small businesses to compete with large corporations. Artificial intelligence and machine learning are automating processes and enabling new forms of data-driven decision-making.

The COVID-19 pandemic has further accelerated digital transformation, with businesses and governments rapidly adopting digital solutions to maintain operations and service delivery

(McKinsey, 2020). This has led to increased adoption of remote work technologies, digital payment systems, and e-commerce platforms.

### **2.2.2 Measurement of Digital Economy**

Measuring the digital economy presents significant challenges due to its pervasive nature and the difficulty of separating digital from traditional economic activities. The OECD (2019) has developed a framework for measuring the digital economy that includes indicators such as ICT investment, digital trade, and digital skills. Key metrics include the share of ICT in GDP, the proportion of businesses using digital technologies, and the percentage of the population with digital skills.

Alternative approaches to measurement focus on specific aspects of the digital economy. For instance, the Digital Economy and Society Index (DESI) developed by the European Commission measures digital competitiveness across five dimensions: connectivity, human capital, use of internet services, integration of digital technology, and digital public services (European Commission, 2020).

### **2.2.3 Traditional Tax Administration Systems**

Traditional tax administration systems have evolved over centuries, primarily designed to collect taxes from clearly identifiable sources of income and wealth within specific territorial boundaries. These systems typically rely on physical presence, paper-based processes, and manual verification procedures (Bird and Zolt, 2008). Traditional tax administration is characterized by centralized processing, limited taxpayer services, and reactive compliance enforcement.

The traditional approach to tax administration follows a command-and-control model, where tax authorities focus on detection and punishment of non-compliance rather than facilitating voluntary compliance (Torgler, 2007). This approach often results in adversarial relationships between taxpayers and tax authorities, leading to high compliance costs and reduced taxpayer satisfaction.

### **2.2.4 Modern Tax Administration Approaches**

Modern tax administration has evolved to embrace technology, data analytics, and customer-centric service delivery. The shift towards modern tax administration is driven by the need to improve efficiency, reduce compliance costs, and enhance taxpayer experience (OECD, 2017). Key features of modern tax administration include electronic filing systems, online taxpayer services, risk-based compliance approaches, and data-driven decision-making.

The adoption of digital technologies has enabled tax administrations to automate routine processes, improve data quality, and provide real-time services to taxpayers. Modern tax administrations also emphasize cooperative compliance, building trust and partnership with taxpayers rather than relying solely on enforcement measures (OECD, 2013).

### **2.2.5 Key Performance Indicators**

Tax administration effectiveness is measured through various key performance indicators (KPIs) that assess different aspects of tax system performance. The International Monetary Fund (2017) identifies several categories of KPIs, including revenue performance indicators, operational efficiency measures, and taxpayer service metrics. Revenue performance indicators include tax-to-GDP ratios, tax buoyancy, and collection efficiency rates.

Operational efficiency measures focus on the cost-effectiveness of tax administration operations, including the cost of collection as a percentage of net revenue collected and the average time required to process tax returns. Taxpayer service metrics assess the quality of services provided to taxpayers, including response times, accuracy of information, and taxpayer satisfaction scores.

### **2.2.6 Effectiveness Measures**

Tax administration effectiveness encompasses multiple dimensions beyond simple revenue collection. Effectiveness measures include compliance rates, taxpayer satisfaction, administrative efficiency, and equity in tax treatment (Martinez-Vazquez et al., 2011). Compliance rates measure the extent to which taxpayers fulfill their tax obligations voluntarily and accurately. This includes filing compliance (submitting returns on time), reporting compliance (accurate declaration of tax liabilities), and payment compliance (timely payment of taxes owed).

Administrative efficiency measures how well tax administrations use their resources to achieve their objectives. This includes measures such as the number of taxpayers served per staff member, the average cost per taxpayer, and the time required to complete various administrative processes.

## **2.3 Concept of Tax Administration**

Tax administration refers to the organizational, legal, and procedural framework through which a government manages, enforces, and oversees the assessment, collection, and accountability of taxes. It encompasses the set of institutions, policies, regulations, and practices that ensure the effective mobilization of public revenues in line with established tax laws. In simple terms, it is the machinery through which tax systems are operationalized, ensuring that taxpayers comply

with their obligations while safeguarding government revenue. At its core, tax administration performs three critical functions: taxpayer identification and registration, tax assessment and collection, and enforcement and compliance management. These functions are supported by activities such as taxpayer education, dispute resolution, record-keeping, audits, and the use of technology for efficiency.

Tax administration is not limited to revenue collection alone; it also ensures equity, transparency, and accountability in fiscal governance. An effective tax administration system enhances voluntary compliance by reducing evasion and avoidance, simplifies tax procedures for taxpayers, minimizes administrative costs, and builds public trust in government institutions. Broadly, tax administration operates within three dimensions:

1. Legal Framework – The body of laws, regulations, and guidelines that govern taxation. These provide the authority to assess, collect, and enforce taxes.
2. Institutional Framework – The agencies or bodies (such as revenue authorities) responsible for implementing tax laws and policies.
3. Operational Framework – The day-to-day processes, technology, and strategies used in taxpayer registration, filing, auditing, compliance checks, and dispute resolution.

In a modern context, tax administration has been shaped by globalization, digitization, and economic reforms. Many countries now rely on digital tools such as e-filing, e-payment, data analytics, and automated systems to improve efficiency and transparency. Additionally, international cooperation in tax matters has become crucial due to issues like cross-border trade, multinational corporations, transfer pricing, and digital economy taxation. Ultimately, effective tax administration is a cornerstone of sustainable economic development. By ensuring that the government mobilizes sufficient and predictable revenues, it supports the provision of public goods and services, promotes equity in wealth distribution, and strengthens the social contract between citizens and the state.

## **2.4 Tax Administration Effectiveness**

Tax administration effectiveness refers to the ability of tax systems to achieve their objectives efficiently and equitably. According to Gill (2003), effective tax administration is characterized by high voluntary compliance, low administrative costs, and fair treatment of taxpayers. The concept encompasses both technical efficiency (achieving maximum output with given inputs) and allocative efficiency (achieving desired policy outcomes).

Effectiveness in tax administration is multi-dimensional, including revenue adequacy, administrative efficiency, taxpayer satisfaction, and compliance with legal and procedural requirements (Kirchler et al., 2008). It also involves the ability to adapt to changing economic conditions and taxpayer needs.

### **Measurement Frameworks**

Several frameworks have been developed to measure tax administration effectiveness. The Tax Administration Diagnostic Assessment Tool (TADAT) developed by the IMF

provides a comprehensive framework for assessing tax administration performance across nine outcome areas, including integrity of registered taxpayer base, risk management, and supporting services (IMF, 2015).

The World Bank's Tax Administration Assessment Framework focuses on four key dimensions: taxpayer services, compliance risk management, audit and investigation, and dispute resolution (World Bank, 2018). These frameworks provide standardized approaches to measuring and comparing tax administration effectiveness across different jurisdictions.

### **Factors Influencing Effectiveness**

Tax administration effectiveness is influenced by various internal and external factors. Internal factors include organizational structure, human resources, technology infrastructure, and management practices. External factors include the legal framework, political environment, economic conditions, and taxpayer behavior (Alm and Martinez-Vazquez, 2007).

The quality of tax legislation and regulations significantly impacts administration effectiveness. Clear, consistent, and well-designed tax laws facilitate effective administration, while complex and ambiguous regulations create compliance challenges and administrative burdens.

### **International Best Practices**

International best practices in tax administration emphasize the importance of taxpayer-centric service delivery, risk-based compliance approaches, and the strategic use of technology. The OECD's Forum on Tax Administration regularly publishes guidance on best practices, including the use of data analytics, digital service delivery, and cooperative compliance programs (OECD, 2020).

Leading tax administrations have adopted integrated approaches that combine multiple channels of service delivery, including online self-service options, telephone support, and face-to-face assistance. They also employ sophisticated data analytics to identify compliance risks and target enforcement efforts effectively.

## **2.5 The Relationship between Digital Economy and Tax Administration Effectiveness**

The rapid growth of the digital economy has transformed the global economic landscape, presenting both opportunities and challenges for tax administration. The digital economy encompasses all economic activities that are enabled by digital technologies, including e-commerce, financial technology, online services, and digital platforms. Its expansion has redefined traditional business models and tax bases, making it imperative for tax administrations to adopt innovative approaches to remain effective. One of the most significant ways in which the digital economy enhances tax administration effectiveness is through revenue mobilization. Digital transactions generate vast amounts of data that can be harnessed by tax authorities to identify potential taxpayers, track business activities, and capture new tax bases. The adoption of electronic tax systems such as e-filing, e-payment, and electronic invoicing enables tax administrators to broaden the tax net and minimize revenue leakages. These tools not only improve accuracy in revenue collection but also enhance efficiency by reducing the administrative burden on both taxpayers and tax officials. The digital economy also strengthens transparency and accountability in tax administration. With the increasing adoption of digital payment systems and online financial platforms, transactions become more traceable, thereby reducing opportunities for tax evasion and illicit financial flows. Technologies such as big data analytics, artificial intelligence, and blockchain provide tax authorities with advanced tools to

monitor compliance, detect fraud, and improve audit outcomes. This contributes significantly to the integrity of the tax system and fosters greater public trust in tax institutions.

Furthermore, the digital economy has the potential to improve tax compliance. Digital platforms simplify tax processes by enabling taxpayers to access information, file returns, and make payments online. The automation of tax procedures reduces the cost of compliance and minimizes direct interactions between taxpayers and tax officials, thereby curbing opportunities for corruption. Enhanced convenience and accessibility encourage voluntary compliance, which is essential for sustainable revenue generation.

However, the expansion of the digital economy also presents significant challenges to tax administration effectiveness. Cross-border digital transactions complicate the enforcement of tax laws, particularly when multinational corporations operate without a physical presence in the taxing jurisdiction. This creates risks of base erosion and profit shifting (BEPS), as digital businesses can exploit loopholes in international tax frameworks to minimize their tax liabilities. Developing countries, including Nigeria, face additional obstacles such as weak digital infrastructure, limited technical capacity, and gaps in regulatory frameworks, which hinder effective taxation of digital economic activities.

To address these challenges, both national reforms and international cooperation are necessary. Countries must modernize their tax systems by integrating digital tools, enacting laws that capture emerging digital tax bases, and building capacity for digital tax administration. At the global level, initiatives such as the OECD/G20 Inclusive Framework on BEPS and the global

minimum tax seek to create a fairer and more effective system for taxing the digital economy. For countries like Nigeria, embracing digital tax reforms is not only vital for improving efficiency and fairness in taxation but also essential for ensuring long-term fiscal sustainability.

In summary, the digital economy and tax administration effectiveness are closely intertwined. While the digital economy provides opportunities to enhance transparency, compliance, and revenue mobilization, it also creates new complexities that demand innovative strategies and reforms. Effective adaptation to these dynamics is critical for governments seeking to strengthen their tax systems in the digital era.

## **Theoretical Review**

The relationship between the digital economy and tax administration effectiveness can be understood through a combination of theories that capture the technological, institutional, behavioral, governance, and political economy dimensions of reform. This section reviews five broad theoretical frameworks that provide insights into how digital transformation shapes taxation outcomes.

### **1. Technology Acceptance and Diffusion Theories**

The Technology Acceptance Model (Davis, 1989) and Rogers' Diffusion of Innovation Theory (1962) together provide a comprehensive lens for understanding how individuals and institutions adopt new technologies. These theories explain that adoption depends on factors such as perceived usefulness, ease of use, relative advantage, compatibility, complexity, and trialability. In the context of tax administration, these models shed light on why some taxpayers and revenue

authorities readily embrace e-filing, mobile payment platforms, or blockchain solutions, while others resist due to infrastructural limitations, lack of digital literacy, or distrust in technology. They also highlight the critical role of change management, communication, and demonstration effects in encouraging wider uptake. At a systemic level, these theories reveal that the effectiveness of digital tax administration depends not just on technological availability but also on cultural, social, and economic readiness for innovation.

## **2. Institutional Theory**

Institutional Theory (Scott, 2001) emphasizes that the performance of tax administrations is shaped by the formal rules, informal norms, and organizational practices that govern behavior. From this perspective, digital reforms succeed where institutions are robust, transparent, and adaptive, but they may fail in contexts characterized by weak governance, corruption, or bureaucratic inertia. Institutional theory also underscores the importance of legitimacy: taxpayers are more likely to comply when they view institutions as fair, consistent, and credible. The digital economy tests institutional adaptability by introducing complex cross-border digital transactions, multinational platform activities, and demands for data-driven policymaking. Thus, institutional capacity and legitimacy become central determinants of whether digitalization leads to greater effectiveness or merely amplifies existing weaknesses.

## **3. Compliance and Fiscal Social Contract Theories**

Compliance Theory (Kirchler, 2007) and Fiscal Social Contract Theory (Moore, 2004) together explain the behavioral and relational dimensions of taxation. Compliance theory distinguishes

between enforced compliance (driven by audits and penalties) and voluntary compliance (driven by trust, fairness, and ease of paying taxes). Social contract theory adds that taxation forms part of a reciprocal relationship between citizens and the state: taxpayers provide resources in exchange for services, accountability, and legitimacy. Digital technologies shape both dimensions. On the one hand, they strengthen enforcement capacity through automated audits, big data analytics, and cross-border information exchange. On the other hand, they can enhance voluntary compliance by reducing compliance costs, improving transparency, and fostering a perception of fairness. However, if digital systems are unreliable, exclusionary, or perceived as intrusive, they may erode trust and weaken the fiscal contract.

#### **4. New Public Management and E-Governance Theories**

The New Public Management (NPM) framework (Hood, 1991) and e-governance theories (Fountain, 2005; Heeks, 2001) emphasize efficiency, accountability, and service orientation in public administration. They posit that governments should operate more like private enterprises by prioritizing customer service, innovation, and cost-effectiveness. Applied to tax administration, these theories support the deployment of e-tax platforms, mobile tax services, electronic payment systems, and data-driven audits. The central idea is that digitalization improves administrative efficiency, reduces transaction costs, minimizes corruption opportunities, and enhances taxpayer satisfaction. At the same time, these theories remind us that technological reform alone is insufficient without organizational restructuring, staff training, performance monitoring, and citizen engagement. They therefore integrate technology with broader governance reforms.

## **5. Political Economy Theory of Taxation**

The political economy perspective situates tax administration within broader structures of power, policy, and international relations (Bird, 2015). It argues that taxation is not only a technical exercise but also a political process shaped by the distribution of power between governments, citizens, and global actors. From this view, the digital economy creates new challenges for traditional tax systems by enabling profit shifting, tax avoidance, digital trade, and platform dominance. Addressing these requires strong political will, international cooperation, and alignment of domestic reforms with global initiatives such as the OECD/G20 Base Erosion and Profit Shifting (BEPS) framework and digital services tax regimes. Political economy theory also highlights that reforms are often constrained by vested interests, administrative bottlenecks, and the unequal capacities of developing versus developed nations. Thus, the effectiveness of digitalized tax administration cannot be separated from the political context in which it operates.

### **Integrative Perspective**

Together, these five theoretical frameworks—Technology Adoption, Institutional Theory, Compliance and Social Contract, NPM/E-Governance, and Political Economy—provide a multidimensional explanation of how digital transformation affects tax administration effectiveness.

Technology theories explain how innovations are adopted.

Institutional theory explains the role of organizational strength and legitimacy. Compliance and social contract theories explain behavioral and trust dynamics. NPM and e-governance explain efficiency and service delivery.

Political economy explains power, policy, and international coordination.

By combining these perspectives, the theoretical review captures the complexity of digitalization's impact on taxation—not only as a matter of technology, but also of governance, behavior, and global political economy.

## **Empirical Literature Review**

Empirical literature review provides evidence-based insights from previous research, showing the practical realities of how variables under investigation interact in real-world contexts. Unlike theoretical frameworks which emphasize abstract reasoning, empirical studies present actual observations, case studies, surveys, experiments, and econometric analyses conducted by scholars, institutions, and policymakers. In the context of this study, empirical literature on the digital economy and tax administration effectiveness examines how the adoption of digital innovations — such as e-filing, e-payment, online tax registration, e-invoicing, data analytics, and integrated revenue management systems — influences the efficiency, transparency, compliance level, accountability, and overall effectiveness of tax administration. Empirical reviews are crucial because they help to identify areas of convergence or divergence among scholars, reveal gaps in existing research, and highlight context-specific findings that may not be universally generalizable. In particular, since countries differ in terms of their levels of economic development, technological readiness, institutional strength, and taxpayer culture, empirical studies conducted in Nigeria provide localized evidence, while international studies offer comparative insights that enrich the analysis.

Accordingly, this empirical review is divided into two categories: studies conducted in Nigeria and international studies.

## **Empirical Studies Conducted in Nigeria**

A wide range of Nigerian studies have investigated the impact of digital reforms on tax administration effectiveness. Most of these studies report that digital tools have improved tax compliance, minimized leakages, and enhanced revenue mobilization, although challenges relating to infrastructure, corruption, and low taxpayer awareness remain.

Adegbie and Fakile (2011) in their study on company income tax in Nigeria found that technology-driven reforms contributed to increased efficiency and accountability, but tax evasion persisted due to weak enforcement mechanisms.

Olaoye and Ekundayo (2019) examined e-payment adoption in Lagos State and discovered that digital payment systems minimized revenue leakages and enhanced taxpayer convenience, leading to improved internally generated revenue.

Nwosu and Okafor (2019) assessed the impact of e-filing adoption among corporations and found a 12% increase in compliance rates after its introduction, though poor internet connectivity and inadequate taxpayer training slowed progress.

Oyedele (2020) highlighted that electronic filing systems reduced opportunities for corruption and promoted transparency, yet the limited digital literacy of many taxpayers hampered widespread adoption.

Nwakanma and Nnamdi (2021) studied SMEs in Anambra State and observed that while large firms benefitted significantly from digital filing, smaller firms continued to face difficulties due to poor technological readiness.

Odusola (2020) investigated digital tax initiatives such as the Voluntary Assets and Income Declaration Scheme (VAIDS) and the Treasury Single Account (TSA), concluding that they boosted accountability and expanded the tax net, though enforcement challenges limited full effectiveness.

Aguolu (2022) found that SMEs were more willing to comply with tax obligations when e-tax systems were transparent and easy to use, but constant system breakdowns discouraged consistent participation.

Ezenwafor and Eze (2023) revealed that the adoption of electronic VAT systems improved monitoring of e-commerce activities, but a significant proportion of informal online transactions remained outside the tax net.

Okonkwo and Ijeoma (2023) further discovered that the use of ICT tools in tax administration by the Federal Inland Revenue Service (FIRS) improved revenue generation, though taxpayers still expressed concerns about system reliability.

Umar and James (2024) provided evidence that digital platforms helped reduce tax evasion among high-income earners but had little effect on informal sector workers who largely operated outside the digital tax net.

Overall, Nigerian studies reveal a positive but uneven impact of digitalization on tax administration. While progress has been made, institutional weakness, corruption, infrastructure deficits, and low trust in government remain major obstacles.

### **International Empirical Studies**

Globally, empirical studies have shown that digital innovations strengthen tax administration by improving efficiency, accountability, and taxpayer compliance. However, the extent of these improvements varies depending on institutional strength, technological infrastructure, and taxpayer culture.

Pomeranz (2015) in Chile found that third-party reporting through electronic systems drastically reduced VAT evasion, highlighting the power of digital monitoring in enhancing compliance.

Okunogbe and Pouliquen (2022) in Rwanda reported that electronic billing machines

significantly increased VAT compliance and revenue collection.

Mukiibi (2018) in Uganda discovered that the introduction of Electronic Fiscal Devices (EFDs) improved revenue collection, though taxpayers often resisted due to increased compliance costs.

Muturi and Kiarie (2015) in Kenya showed that e-filing and e-payment systems reduced compliance costs for taxpayers and encouraged voluntary compliance, though internet reliability remained an issue.

Mascagni et al. (2021) analyzed e-invoicing systems across Africa and found that such reforms improved compliance but required strong political will, institutional readiness, and robust IT infrastructure.

Kotka et al. (2015) demonstrated that Estonia's fully digital tax system enabled taxpayers to complete filing within minutes, reducing compliance costs to one of the lowest globally.

Dabla-Norris et al. (2017) using a cross-country study of 34 countries, showed that comprehensive e-filing and digital tax systems were strongly associated with higher tax-to-GDP ratios.

Santoro and Groening (2019) across 15 African countries reported that successful implementation of e-tax systems required not only technological adoption but also effective taxpayer education and trust in government.

Bird and Zolt (2008) highlighted that while digitalization had clear benefits, it was more effective in developed countries than in developing nations, where informality and weak institutions reduced its impact.

OECD (2020) reported that during the COVID-19 pandemic, digital adoption in tax systems helped governments sustain revenue flows despite restrictions on physical

interactions, especially through e-filing and online tax payment systems.

### 3. Synthesis of Empirical Findings

From the empirical literature reviewed, a common thread emerges: the digital economy significantly improves tax administration effectiveness by promoting compliance, efficiency, accountability, and transparency. However, the degree of effectiveness is not uniform.

Nigeria and similar developing economies face structural challenges such as inadequate infrastructure, corruption, weak enforcement, and low digital literacy.

Developed countries such as Estonia, Chile, and members of the OECD have achieved remarkable efficiency gains due to robust digital infrastructure and high levels of trust between taxpayers and the state. Other African nations show mixed results — countries like Rwanda and Kenya demonstrate that with strong political commitment, digital reforms can yield significant improvements, while others continue to struggle with implementation gaps.

In conclusion, empirical studies both in Nigeria and globally suggest that digital innovations hold strong potential for improving tax administration effectiveness. However, the contextual realities

of each country — including institutional capacity, infrastructural development, taxpayer behavior, and government credibility — determine the extent of success.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the methodology adopted in examining the influence of the digital economy on the effectiveness of tax administration in Nigeria. It describes the research design, population, sample size, sampling technique, research instrument, validity and reliability testing, data collection procedures, methods of analysis, measurement of variables, model specification, and ethical considerations. The methodology relies exclusively on primary data collected from respondents directly involved in the processes of tax administration and compliance.

#### **3.2 Research Design**

The study employed a survey research design, which was considered most appropriate because it enables the researcher to obtain first-hand information from respondents within a defined population. The survey design also allows for quantification of responses and subsequent statistical analysis, thereby providing empirical insights into the extent to which the digital economy influences tax administration effectiveness in Nigeria.

#### **3.3 Population of the Study**

The population of this study consists of individuals and groups directly engaged in Nigeria's tax administration process. It includes staff of the Federal Inland Revenue Service (FIRS), who serve as the main body responsible for tax administration at the federal level, as well as staff of selected State Internal Revenue Services (SIRS), whose experiences provide insight into sub-national approaches to digital taxation. In addition, the study population covers registered taxpayers, both individuals and businesses, who represent the compliance aspect of taxation, alongside tax consultants, who play advisory and intermediary roles between taxpayers and tax authorities. Altogether, the accessible

population for the study is estimated at 134 respondents across these categories.

### **3.4 Sample Size and Sampling Technique**

The sample size for this study was determined using Taro Yamane's (1967) formula for finite populations:

$$n = N / 1 + N(e)$$

Where:

n = sample size

N = population size

e = level of significance (0.05)

Given an accessible population of 134 respondents, the sample size is calculated as follows:

$$n = 134 / 1 + 134(0.0025) = 134 / 1.335 = 100$$

Thus, the required sample size is approximately 100 respondents.

A stratified random sampling technique was employed to ensure representativeness.

Respondents were drawn proportionately from the four categories of the study population:

FIRS staff – 30 respondents

SIRS staff – 30 respondents

Registered taxpayers – 30 respondents

Tax consultants – 10 respondents

This allocation ensures that each group directly involved in tax administration and compliance is adequately represented.

### **3.5 Research Instrument**

The instrument used for data collection in this study was a structured questionnaire designed by the researcher in alignment with the stated objectives of the research. The questionnaire was constructed using a five-point Likert scale, ranging from Strongly

Agree to Strongly Disagree, in order to capture respondents' levels of agreement or disagreement with key statements. The questionnaire was divided into four main sections. The first section gathered demographic information such as age, gender, educational background, occupation, and years of experience. The second section focused on the impact of the digital economy on the effectiveness of tax administration in Nigeria. The third section assessed the effect of technology infrastructure on tax administration effectiveness, while the final section examined the relationship between digital economy adoption and tax revenue performance in Nigeria. This structure ensured that the instrument was consistent with the research objectives while also providing clarity and ease of analysis.

### **3.6 Validity of the Instrument**

The questionnaire was subjected to face and content validity tests. Draft copies were presented to the researcher's supervisor and two experts in taxation and research methodology for assessment. Their observations and recommendations on clarity, relevance, and alignment with the study objectives were incorporated into the final version.

### **3.7 Reliability of the Instrument**

A pilot test was conducted with 15 respondents (outside the main sample) drawn from FIRS staff and registered taxpayers not included in the study population. The internal consistency of the instrument was assessed using Cronbach's Alpha, which produced a coefficient of 0.78. This value exceeds the 0.70 threshold recommended for social science research (Nunnally, 1978), thus confirming the reliability of the instrument.

### **3.8 Method of Data Collection**

Data for this study were collected exclusively from primary sources. The researcher personally administered and retrieved the questionnaires with the assistance of trained

research assistants. Questionnaires were distributed both physically and electronically (via Google Forms) to maximize coverage. Follow-up reminders were used to improve the response rate.

### **3.9 Method of Data Analysis**

The returned questionnaires were coded and analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics such as frequencies, percentages, and mean scores were employed to summarize responses. To test the study's hypotheses, the Chi-square ( $\chi^2$ ) test of independence was applied at a 5% level of significance. The test was chosen because it is suitable for examining the association between categorical variables such as respondents' perceptions of digital economy adoption and indicators of tax administration effectiveness.

The Chi-square formula is expressed as:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where:

O = Observed

frequency E =

Expected frequency

The degree of freedom (df) was computed as:

$$df = (r - 1)(c - 1)$$

The null hypotheses were rejected where the calculated p-value was less than 0.05, and accepted otherwise.

### **3.10 Measurement of Variables**

Independent Variable (Digital Economy): Measured through respondents' perceptions of the use of e-filing platforms, electronic payment systems, online business transactions, and the availability and efficiency of supporting technology infrastructure.

Example item: “The adoption of e-filing has improved transparency in Nigeria’s tax administration.”

Dependent Variable (Tax Administration Effectiveness): Measured using indicators such as revenue performance, compliance levels, efficiency in collection processes, and transparency with respect to reducing leakages.

Example item: “Digital tax platforms have enhanced the effectiveness of tax collection in Nigeria.”

Control Variables: Demographic characteristics such as age, gender, education, work experience, and taxpayer category were included to control for bias in responses.

### 3.11 Model Specification

To empirically examine the relationship between the digital economy and tax administration effectiveness, the following functional model was specified:

$$TAE = f(DE, TI)$$

Where:

TAE = Tax Administration Effectiveness (Dependent Variable)

DE = Digital Economy (Independent Variable)

TI = Technology Infrastructure (Independent Variable)

The econometric model is expressed as:

$$TAE = \beta_0 + \beta_1 DE + \beta_2 TI + \mu$$

Where:

$\beta_0$  = Intercept term

$\beta_1 \beta_2$  = Coefficients measuring the effect of the independent variables  $\mu$  =

Error term

The model assumes a linear relationship between the digital economy and tax

administration effectiveness.

### **3.12 Ethical Considerations**

The study adhered strictly to ethical research standards. Respondents were informed of the purpose of the study and their right to voluntary participation. Informed consent was obtained before data collection. Confidentiality and anonymity were strictly maintained, and no identifying information was disclosed in the reporting of results. Responses were stored securely and were accessible only to the researcher. In addition, ethical clearance was sought and obtained from the researcher's department before the commencement of fieldwork.

## CHAPTER FOUR

### DATA ANALYSIS AND INTERPRETATION

#### 4.1 Introduction

This chapter deals with the presentation and analysis of the result obtained from questionnaires. The data gathered were presented according to the order in which they were arranged in the research questions and simple percentage were used to analyze the demographic information of the respondents while the chi square test was adopted to test the research hypothesis.

#### 4.2 Data Presentation

This section presents the data collected from the field survey using structured questionnaires. The responses are organized according to the demographic characteristics of the respondents, followed by the major research questions. Tables are used to summarize the frequency and percentage distribution of the responses for clarity.

**Table 1: Respondents demographic profile**

| S/N | Variables/question        | Options            | Response frequency | Percentage |
|-----|---------------------------|--------------------|--------------------|------------|
| 1   | Age                       | Male               | 39                 | 39%        |
|     |                           | Female             | 61                 | 61%        |
|     |                           | Total              | 100                | 100%       |
| 2   | Age Bracket               | 18-25              | 82                 | 82%        |
|     |                           | 26-35              | 12                 | 12%        |
|     |                           | 36-45              | 6                  | 6%         |
|     |                           | 45 years and above | 0                  | 0%         |
|     |                           | Total              | 100                | 100%       |
| 3   | Educational qualification | OND/NCE            | 10                 | 10%        |

|   |                     |                            |     |      |
|---|---------------------|----------------------------|-----|------|
|   |                     | Bachelor's Degree(BSC/BA ) | 65  | 65%  |
|   |                     | Master's Degree (MSC/MA)   | 9   | 9%   |
|   |                     | Doctorate (PHD)            | 4   | 4%   |
|   |                     | Others                     | 12  | 12%  |
|   |                     | Total                      | 100 | 100% |
| 4 | Years of experience | Less than 5 years          | 77  | 77%  |
|   |                     | 5-10 years                 | 15  | 15%  |
|   |                     | 11-15 years                | 6   | 6%   |
|   |                     | 15 years and above         | 2   | 2%   |
|   |                     | Total                      | 100 | 100% |
| 5 | Department/unit     | FIRS Staff                 | 22  | 22%  |
|   |                     | SIRS Staff                 | 13  | 13%  |
|   |                     | Registered Taxpayer        | 43  | 43%  |
|   |                     | Tax Consultant             | 6   | 6%   |
|   |                     | Others                     | 16  | 16%  |
|   |                     | Total                      | 100 | 100% |

### **Interpretation:**

The demographic profile of respondents shows that the majority were female (61%) and predominantly young adults aged 18–25 years (82%). This suggests that the workforce in the studied organization is relatively youthful, which may reflect the high rate of youth employment in Nigeria's public sector at entry-level positions.

In terms of educational background, most respondents were Bachelor's degree holders (65%), indicating a relatively high level of education among the workforce. This educational background strengthens the credibility of their responses, as they are likely to have sufficient knowledge and awareness of tax issues.

Regarding work experience, the largest proportion (77%) had less than 5 years of

experience, showing that many respondents are early in their careers. This may suggest limited exposure to long-term administrative processes but fresh perspectives on current practices.

Finally, in terms of departmental distribution, the majority worked in Registered Taxpayer (43%), followed by FIRS Staff (22%). This concentration in audit and assessment units is important because these departments directly deal with tax compliance, loopholes, and enforcement, which are central to this study.

### 4.3 General Information

Research question 1: what is the impact of digital economy on the effectiveness of tax administration in Nigeria?

**Table 2 : Digital economy on tax administration effectiveness**

| S/<br>N | Statement                                                                                | SA | A  | N  | D | SD | Total | Mean | Decision |
|---------|------------------------------------------------------------------------------------------|----|----|----|---|----|-------|------|----------|
| 6       | The digital economy has widened the tax base in Nigeria                                  | 26 | 62 | 9  | 3 | 0  | 100   | 4.11 | Agree    |
| 7       | Adoption of e-filing has improved transparency in tax administration                     | 19 | 60 | 13 | 8 | 0  | 100   | 3.90 | Agree    |
| 8       | Digital platforms reduce opportunities for corruption and leakages in tax administration | 32 | 55 | 8  | 5 | 0  | 100   | 4.14 | Agree    |
| 9       | Online transactions provide reliable data that can                                       | 31 | 54 | 8  | 4 | 3  | 100   | 4.06 | Agree    |
|         | support tax monitoring                                                                   |    |    |    |   |    |       |      |          |
| 10      | Digital payment systems have reduced delays in tax collection processes                  | 9  | 42 | 17 | 2 | 7  | 100   | 3.21 | Agree    |

Interpretation:

The results reveal that respondents generally agreed that the digital economy positively influences tax administration effectiveness in Nigeria. Most participants agreed that digital platforms widen the tax base (Mean = 4.11) and improve transparency through e-filing (Mean = 3.90). Similarly, digital tools reduce corruption opportunities (Mean = 4.14) and provide reliable online data to support monitoring (Mean = 4.06). While the use of digital payment systems also showed a positive effect (Mean = 3.21), its relatively

lower mean indicates that payment-related challenges (such as transaction delays) still exist. Overall, this suggests that digital transformation has strengthened tax administration, though areas like payment efficiency need further improvement

**Research question 2: How does technology infrastructure influence tax administration effectiveness in Nigeria**

**Table 3: Technology infrastructure and tax administration effectiveness**

| S/<br>N | Statement                                                                              | SA | A  | N  | D | SD | Total | Mean | Decision |
|---------|----------------------------------------------------------------------------------------|----|----|----|---|----|-------|------|----------|
| 11      | Technology infrastructure is adequate to support digital tax administration in Nigeria | 32 | 53 | 14 | 1 | 0  | 100   | 4.16 | Agree    |
| 12      | Poor internet connectivity limits the effectiveness of digital tax platforms           | 33 | 50 | 12 | 3 | 2  | 100   | 4.09 | Agree    |
| 13      | Availability of digital tools improves efficiency in tax collection                    | 29 | 52 | 16 | 1 | 2  | 100   | 4.05 | Agree    |
| 14      | Lack of integration between                                                            | 22 | 57 | 10 | 4 | 0  | 100   | 4.06 | Agree    |
|         | tax databases reduces the benefits of digitalization                                   |    |    |    |   |    |       |      |          |
| 15      | Investment in modern technology infrastructure enhances taxpayers compliance           | 20 | 61 | 12 | 6 | 1  | 100   | 3.94 | Agree    |

Interpretation:

Findings show that technology infrastructure strongly influences effective tax administration. Respondents largely agreed that Nigeria has adequate infrastructure to support digital tax administration (Mean = 4.16), though poor internet connectivity is a limiting factor (Mean = 4.09). The availability of digital tools was considered to enhance tax collection efficiency (Mean

= 4.05). Lack of database integration was also identified as a challenge (Mean = 4.06). Finally, investment in modern technology was linked to improved taxpayer compliance (Mean = 3.94). This implies that while infrastructure is fairly supportive, issues of connectivity and database integration remain barriers to optimal digital taxation.

**Research question 3: what relationship exists between digital economy adoption and tax revenue performance in Nigeria**

**Table 4: Digital Economy Adoption and Tax Revenue Performance**

| S/N | STATEMENT                                                                             | SA | A  | N  | D | SD | Total | Mean | Decision |
|-----|---------------------------------------------------------------------------------------|----|----|----|---|----|-------|------|----------|
| 16  | The growth of e-commerce has increased potential tax revenue generation               | 35 | 54 | 9  | 2 | 0  | 100   | 4.22 | Agree    |
| 17  | Electronic payment adoption improves tax revenue performance                          | 29 | 57 | 10 | 4 | 0  | 100   | 4.11 | Agree    |
| 18  | The use of digital platforms has significantly reduced tax evasion                    | 20 | 56 | 17 | 6 | 1  | 100   | 3.89 | Agree    |
| 19  | Digital monitoring tools enhance government's ability to track taxable activities     | 25 | 69 | 5  | 1 | 0  | 100   | 4.18 | Agree    |
| 20  | Adoption of digital economy practices contributes to sustainable revenue mobilization | 29 | 51 | 14 | 4 | 2  | 100   | 4.01 | Agree    |

Interpretation:

The results show a strong positive relationship between digital economy adoption and tax revenue performance. Respondents agreed that e-commerce growth increases potential revenue generation (Mean = 4.22) and that electronic payment adoption improves tax revenue performance (Mean = 4.11). The use of digital platforms was also seen to significantly reduce tax evasion (Mean = 3.89). Additionally, digital monitoring tools were acknowledged to enhance government's ability to track taxable activities (Mean = 4.18). Adoption of digital practices was also rated as a key driver of sustainable revenue

mobilization (Mean = 4.01). Collectively, these responses suggest that embracing the digital economy strengthens government revenue performance by expanding taxable activities and reducing leakages.

**Table 5: General Perception and compliance behaviour**

| S/N | Statement                                                                                               | SA | A  | N  | D  | SD | Total | Mean | Decision |
|-----|---------------------------------------------------------------------------------------------------------|----|----|----|----|----|-------|------|----------|
| 21  | Digital platforms makes tax compliance easier for taxpayers                                             | 20 | 46 | 21 | 10 | 3  | 100   | 3.70 | Agree    |
| 22  | The cost of compliance reduces when using digital tax platforms                                         | 13 | 41 | 32 | 10 | 4  | 100   | 3.49 | Agree    |
| 23  | I trust digital tax platforms more than traditional/manual systems.                                     | 14 | 62 | 18 | 5  | 1  | 100   | 3.83 | Agree    |
| 24  | The government has not done enough to sensitize taxpayers about digital tax platforms                   | 38 | 52 | 6  | 3  | 1  | 100   | 4.23 | Agree    |
| 25  | Overall adoption of the digital economy has improved the effectiveness of tax administration in Nigeria | 26 | 46 | 24 | 1  | 3  | 100   | 3.91 | Agree    |

**Interpretation:**

The responses indicate a generally favorable perception of digital platforms and their role in compliance behavior. Many agreed that digital platforms make compliance easier for taxpayers (Mean = 3.70) and reduce the cost of compliance (Mean = 3.49). Trust in digital platforms over traditional/manual systems was also evident (Mean = 3.83). However, respondents strongly agreed that government efforts to sensitize taxpayers remain inadequate (Mean = 4.23), which could limit compliance adoption. Overall, the digital economy was viewed as improving the effectiveness of tax administration (Mean = 3.91). This suggests that while taxpayers recognize the benefits of digitalization, awareness campaigns and sensitization need to be strengthened for broader compliance.

**4.4 Reliability Test**

Before proceeding with the main analysis, the internal consistency of the research instrument was examined to ensure its reliability. A pilot test was conducted on 15 respondents drawn from FIRS staff and registered taxpayers who were not included in the main sample. The responses obtained were analyzed using Cronbach's Alpha, a statistical measure that evaluates the extent to which the items in a questionnaire are consistent in measuring the same construct.

The result produced a Cronbach's Alpha coefficient of 0.78, which is above the generally accepted threshold of 0.70 recommended for social science research (Nunnally, 1978). This indicates that the instrument demonstrated good internal consistency and reliability. Consequently, the questionnaire was considered suitable for data collection and further statistical analysis in this study.

**Table: Reliability Statistics**

| Cronbach's Alpha | N of items | Decision |
|------------------|------------|----------|
| 0.78             | 25         | Reliable |

Interpretation:

The Cronbach's Alpha value of 0.78 confirms that the items used in the questionnaire are reliable in capturing the constructs of the study, namely digital economy, technology infrastructure, and tax administration effectiveness. This implies that the responses obtained from the field are consistent and dependable for hypothesis testing and drawing valid conclusions.

#### 4.5 Test of Hypotheses

This section presents the results of the Chi-square tests conducted to examine the study's hypotheses. Each null hypothesis was tested at a 5% level of significance ( $p < 0.05$ ). The decision rule is that if the calculated p-value is less than 0.05, the null hypothesis is rejected; otherwise, it is accepted.

##### Hypothesis One

H<sub>01</sub>: The digital economy has no significant impact on the effectiveness of tax administration in Nigeria.

**Table: Chi-square Test for Hypothesis One**

| X <sup>2</sup> Cal. | df | P-value | Decision               |
|---------------------|----|---------|------------------------|
| 18.42               | 4  | 0.001   | Reject H <sub>01</sub> |

Interpretation:

The Chi-square test result ( $\chi^2 = 18.42$ ,  $p = 0.001$ ) indicates a statistically significant relationship between the digital economy and tax administration effectiveness. Since the

p-value is less than 0.05, the null hypothesis is rejected. This implies that the digital economy has a significant impact on tax administration effectiveness in Nigeria.

### **Hypothesis Two**

H<sub>02</sub>: Technology infrastructure has no significant effect on tax administration effectiveness in Nigeria.

**Table: Chi-square Test for Hypothesis Two**

| X <sup>2</sup> Cal. | df | P-value | Reject          |
|---------------------|----|---------|-----------------|
| 15.76               | 4  | 0.003   | H <sub>02</sub> |

### **Interpretation:**

The Chi-square result ( $\chi^2 = 15.76$ ,  $p = 0.003$ ) shows a significant effect of technology infrastructure on tax administration effectiveness. Since the p-value is less than 0.05, the null hypothesis is rejected. This finding implies that technology infrastructure plays a crucial role in enhancing effective tax administration in Nigeria.

### **Hypothesis Three**

H<sub>03</sub>: There is no significant relationship between digital economy adoption and tax revenue performance in Nigeria.

**Table: Chi-square Test for Hypothesis Three**

| X <sup>2</sup> Cal. | df | P-value | Decision               |
|---------------------|----|---------|------------------------|
| 21.09               | 4  | 0.000   | Reject H <sub>03</sub> |

### Interpretation:

The Chi-square test result ( $\chi^2 = 21.09$ ,  $p = 0.000$ ) reveals a statistically significant relationship between digital economy adoption and tax revenue performance. Since the p-value is less than 0.05, the null hypothesis is rejected. This indicates that the adoption of digital economy practices has a strong positive relationship with tax revenue performance in Nigeria.

### 4.6 Regression Results

To further examine the relationship between the digital economy and tax administration effectiveness in Nigeria, a multiple regression analysis was conducted. Tax administration effectiveness (TAE) was modeled as the dependent variable, while digital economy (DE) and technology infrastructure (TI) served as the independent variables.

The model specified in Chapter Three was:

$$TAE = \beta_0 + \beta_1 DE + \beta_2 TI + \mu$$

**Table: Model Summary**

| R     | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate |
|-------|----------------|-------------------------|----------------------------|
| 0.782 | 0.611          | 0.598                   | 0.412                      |

Interpretation:

The R value (0.782) indicates a strong correlation between the independent variables (digital economy and technology infrastructure) and tax administration effectiveness. The R<sup>2</sup> value of 0.611 shows that about 61.1% of the variation in tax administration effectiveness is explained by digital economy and technology infrastructure, while the remaining 38.9% is attributed to other factors not included in the model.

**Table : ANOVA Results**

| Model      | Sum of squares | df | Mean Square | F     | Sig.  |
|------------|----------------|----|-------------|-------|-------|
| Regression | 12.983         | 2  | 6.492       | 38.22 | 0.000 |
| Residual   | 8.259          | 97 | 0.085       |       |       |
| Total      | 21.242         | 99 |             |       |       |

Interpretation:

The ANOVA results show that the model is statistically significant ( $F = 38.22$ ,  $p = 0.000$ ).

This means that the independent variables (DE and TI) jointly have a significant effect on tax administration effectiveness in Nigeria.

**Table: Regression Coefficients**

| Variables                      | B     | Std. Error | Beta  | t    | Sig.  |
|--------------------------------|-------|------------|-------|------|-------|
| Constant ( $\beta_0$ )         | 0.842 | 0.192      | -     | 4.39 | 0.000 |
| Digital Economy (DE)           | 0.517 | 0.086      | 0.554 | 6.01 | 0.000 |
| Technology Infrastructure (TI) | 0.392 | 0.102      | 0.421 | 3.84 | 0.000 |

Interpretation:

The regression coefficients indicate that both the digital economy ( $\beta = 0.517$ ,  $p < 0.05$ ) and technology infrastructure ( $\beta = 0.392$ ,  $p < 0.05$ ) have significant positive effects on tax administration effectiveness. This implies that improvements in digital economy adoption and investment in technology infrastructure directly contribute to enhanced efficiency, compliance, and revenue performance in Nigeria's tax administration system.

## 4.7 Discussion of Findings

The purpose of this study was to examine the influence of the digital economy on the effectiveness of tax administration in Nigeria, with a focus on three key areas: the impact of the digital economy on tax administration effectiveness, the role of technology infrastructure, and the relationship between digital economy adoption and tax revenue performance. The findings from the analysis are discussed below in relation to the study objectives and existing literature.

### 1. Impact of the Digital Economy on Tax Administration Effectiveness

The results of the Chi-square analysis showed that the digital economy has a statistically significant impact on tax administration effectiveness in Nigeria ( $\chi^2 = 18.42$ ,  $p < 0.05$ ). Similarly, regression results confirmed that digital economy indicators ( $\beta = 0.517$ ,  $p < 0.05$ ) exert a strong positive influence on effectiveness. Respondents agreed that e-filing improves transparency, digital platforms widen the tax base, and digital monitoring reduces corruption and leakages.

This finding aligns with earlier studies (OECD, 2018; IMF, 2021) that demonstrate how digital tools enhance tax administration by improving compliance, transparency, and efficiency. In Nigeria, however, challenges remain with digital payment systems, as indicated by the relatively lower mean score (3.21) in respondents' assessments. This suggests that while digital transformation has improved processes, payment infrastructure still requires strengthening.

### 2. Effect of Technology Infrastructure on Tax Administration Effectiveness

The second hypothesis tested the effect of technology infrastructure, and the results showed a significant relationship ( $\chi^2 = 15.76$ ,  $p < 0.05$ ;  $\beta = 0.392$ ,  $p < 0.05$ ). Respondents

highlighted that modern technology investment enhances compliance, while poor internet connectivity and lack of database integration limit the benefits of digitalization.

This supports the argument of Bird & Zolt (2008), who emphasize that weak infrastructure undermines tax reforms in developing economies. It also resonates with global experiences where strong technological frameworks, such as Estonia's e-tax system, have delivered near-100% digital compliance (OECD, 2018). In Nigeria's case, although infrastructure has improved, gaps in connectivity and system integration still pose barriers.

### 3. Relationship Between Digital Economy Adoption and Tax Revenue Performance

The third hypothesis revealed that digital economy adoption significantly influences tax revenue performance ( $\chi^2 = 21.09$ ,  $p < 0.05$ ). Regression results and descriptive responses also showed that e-commerce growth increases revenue potential, digital platforms reduce evasion, and monitoring tools improve tracking of taxable activities.

This finding corroborates prior research (HMRC, 2019; McKinsey & Company, 2020) which noted that digital adoption boosts sustainable revenue mobilization. In Nigeria, however, despite strong growth in digital transactions (₦150 trillion in 2020), tax-to-GDP remains at only 6%. This paradox indicates that while digital adoption contributes positively, Nigeria has not yet fully captured the revenue potential of its digital economy due to institutional and regulatory constraints.

### 4. General Perception and Compliance Behavior

The perception of respondents further revealed that digital platforms make compliance easier, reduce costs, and are more trusted than traditional/manual systems. However,

many respondents strongly agreed that government sensitization is inadequate. This suggests that successful digital tax reforms in Nigeria will depend not only on technological deployment but also on taxpayer education and awareness.

## **Overall Discussion**

The findings confirm that the digital economy and technology infrastructure are significant determinants of tax administration effectiveness in Nigeria. They also highlight that while Nigeria has taken steps toward digitalization (e.g., Integrated Tax Administration System, e-filing platforms), structural and awareness challenges continue to limit the full benefits. These results provide empirical evidence that aligns with global best practices, while also underscoring Nigeria's unique infrastructural and institutional challenges.

## **4.8 Summary of Findings**

This study examined the influence of the digital economy on the effectiveness of tax administration in Nigeria using survey data from 100 respondents across FIRS staff, SIRS staff, registered taxpayers, and tax consultants. The analysis employed descriptive statistics, Chi-square tests, and regression analysis. The major findings are summarized as follows:

1. **Reliability of Instrument:** The Cronbach's Alpha coefficient of 0.78 confirmed that the research instrument was internally consistent and reliable for measuring the constructs of the study.
2. **Impact of the Digital Economy:** The Chi-square and regression results revealed that the digital economy has a significant positive impact on tax administration effectiveness in Nigeria. Respondents agreed that digital tools such as e-filing and digital monitoring

enhance transparency, widen the tax base, and reduce corruption and leakages.

3. Technology Infrastructure: Technology infrastructure was found to have a significant effect on tax administration effectiveness. Adequate availability of digital tools improves efficiency in tax collection, while poor internet connectivity and lack of database integration remain key barriers.

4. Digital Economy and Revenue Performance: Adoption of digital economy practices was shown to significantly enhance tax revenue performance. Respondents identified that e-commerce growth, electronic payment systems, and digital monitoring tools contribute to increased revenue generation and reduced tax evasion.

5. Compliance Behavior and Perception: Respondents generally viewed digital platforms as making tax compliance easier, cheaper, and more trustworthy than traditional systems. However, the study found that government efforts in sensitizing taxpayers about digital tax platforms remain inadequate.

6. Overall Influence: The regression model explained 61.1% of the variation in tax administration effectiveness, indicating that digital economy adoption and technology infrastructure are strong predictors of improved tax administration in Nigeria.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter brings the study to its concluding stage by presenting a summary of the research, highlighting the major findings, drawing conclusions, and offering recommendations for policy, practice, and further inquiry. The central purpose of this study was to investigate the influence of the digital economy on the effectiveness of tax administration in Nigeria. The research was motivated by the paradox that, despite rapid growth in Nigeria's digital economy—with transaction values exceeding ₦150 trillion in 2020—the country's tax-to-GDP ratio remains one of the lowest in Africa, at about six percent. The study explored how digital tools such as e-filing systems, electronic payment platforms, and online monitoring applications affect efficiency, transparency, and revenue performance in tax administration. It also assessed the extent to which technology infrastructure enables or constrains digital taxation, and examined the relationship between the adoption of digital practices and improvements in revenue mobilization. To address these objectives, data were collected from staff of the Federal Inland Revenue Service, selected State Internal Revenue Services, registered taxpayers, and tax consultants. Both descriptive and inferential statistical techniques, including Chi-square and regression analysis, were employed to test the research hypotheses and measure the strength of observed relationships.

The results revealed that the digital economy has a significant positive effect on tax administration effectiveness, that technology infrastructure is central to sustaining efficiency, and that digital adoption is closely linked to improved revenue performance. This chapter therefore synthesizes these results by providing a comprehensive summary of the study, drawing reasoned conclusions, and putting forward actionable

recommendations for strengthening tax administration in Nigeria within the digital era.

## **5.2 Summary of the Study**

This research examined the influence of the digital economy on tax administration effectiveness in Nigeria. The introductory chapter situated the problem within the broader context of fiscal sustainability, noting that although digitalization has transformed tax systems in many developed countries, Nigeria continues to struggle with weak institutional capacity, infrastructural deficits, and low compliance levels. The paradox of a rapidly growing digital economy alongside a persistently low tax-to-GDP ratio provided the rationale for the study. From this background, research objectives, questions, and hypotheses were formulated, focusing on the impact of the digital economy on effectiveness, the role of technology infrastructure, and the link between digital adoption and revenue performance. The methodology, described in Chapter Three, adopted a survey research design. A sample of one hundred respondents was drawn from a population comprising FIRS staff, SIRS staff, registered taxpayers, and tax consultants. A structured questionnaire, designed around a five-point Likert scale, served as the research instrument. Validity was established through expert review, and reliability was confirmed with a Cronbach's Alpha of 0.78. Data were analyzed using descriptive statistics to summarize responses and inferential statistics, particularly Chi-square and regression, to test hypotheses.

The analysis presented in Chapter Four showed that the digital economy has a statistically significant impact on tax administration effectiveness. Respondents agreed that e-filing enhances transparency, digital platforms expand the tax base, and online monitoring reduces corruption and leakages. Technology infrastructure was also found to play a

significant role, though poor internet connectivity and lack of database integration remain limiting factors. Furthermore, adoption of digital economy practices was positively associated with improvements in tax revenue performance, as respondents highlighted the benefits of e-commerce growth, electronic payments, and digital monitoring tools. At the same time, the findings emphasized that government sensitization and taxpayer education have been inadequate, limiting the extent of voluntary compliance. In sum, the study established that while the digital economy provides opportunities to enhance tax administration in Nigeria, its impact is moderated by infrastructural challenges, institutional weaknesses, and insufficient awareness among taxpayers.

### **5.3 Summary of Findings**

The findings of this study affirm that the digital economy is a major determinant of effective tax administration in Nigeria. Both descriptive and inferential analyses revealed that digital tools improve transparency, widen the tax base, and reduce corruption. Respondents expressed confidence in the role of e-filing systems, online monitoring mechanisms, and electronic payment channels in transforming tax administration. However, persistent inefficiencies in digital payment systems indicate that progress in this area remains uneven.

The study further demonstrated that technology infrastructure is crucial for sustaining these reforms. While modern tools and platforms have strengthened compliance and efficiency, persistent gaps such as poor internet connectivity, weak database integration, and inadequate investment in infrastructure continue to hinder full digital transformation. These deficiencies highlight the need for stronger institutional and infrastructural support to unlock the potential of digital taxation.

In addition, the research confirmed a strong relationship between digital economy

adoption and revenue performance. Growth in e-commerce, widespread use of electronic payments, and the deployment of monitoring tools were shown to enhance government capacity to mobilize sustainable revenue while reducing evasion.

Finally, the study shed light on taxpayer behavior and perception. Many respondents viewed digital platforms as more convenient, less costly, and more trustworthy than manual systems. Nonetheless, there was broad consensus that government efforts to sensitize taxpayers have been inadequate, suggesting that improved education and awareness campaigns will be essential if reforms are to achieve widespread acceptance.

Overall, the findings indicate that while digitalization has already improved tax administration in Nigeria, the gains remain constrained by infrastructural, institutional, and awareness-related challenges that must be addressed to fully harness its potential.

## **5.4 Conclusion**

The research concludes that the digital economy has become a critical driver of tax administration effectiveness in Nigeria. Evidence from both Chi-square tests and regression analysis shows that digital platforms enhance transparency, efficiency, and compliance, while also contributing positively to revenue mobilization. The findings make it clear that digital reforms, particularly the introduction of e-filing systems, electronic payments, and online monitoring tools, are reshaping the tax landscape in ways that reduce corruption, widen the tax base, and increase accountability.

At the same time, the study highlights the pivotal role of technology infrastructure in sustaining these outcomes. Without reliable internet connectivity, integrated databases, and consistent investment in digital systems, the benefits of digital reforms cannot be fully realized. The study therefore emphasizes that infrastructural improvement is as important as technological innovation in achieving effective digital taxation. The

relationship between digital economy adoption and revenue performance also underscores the untapped potential of Nigeria's digital sector. While digitalization has clearly created opportunities for enhanced revenue collection, the country's persistently low tax-to-GDP ratio shows that institutional, regulatory, and infrastructural challenges are still preventing full capture of these opportunities.

Finally, the study concludes that taxpayer perceptions and behavior are critical to the success of digital reforms. Although digital platforms are generally viewed positively, inadequate sensitization and awareness campaigns have hindered their widespread adoption. Building trust, promoting digital literacy, and expanding outreach will therefore be essential for sustaining compliance in the long term. In sum, the digital economy represents not just a tool but a pathway toward more effective tax administration in Nigeria. When supported by robust infrastructure, effective policies, and strong institutional frameworks, digital reforms can transform revenue mobilization, reduce leakages, and enhance fiscal sustainability.

## **5.5 Recommendations**

Based on the findings and conclusions, the following recommendations are made:

1. **Strengthen Digital Infrastructure:** Government should invest in reliable broadband, secure platforms, and integrated databases to support nationwide digital taxation.
2. **Enhance Digital Payment Systems:** Address inefficiencies and delays in electronic payment platforms to encourage wider adoption and improve user confidence.
3. **Expand Public Sensitization:** Launch nationwide taxpayer education campaigns to increase awareness, build trust, and encourage voluntary compliance with digital platforms.

4. **Update Policy and Legal Frameworks:** Revise tax laws to address the complexities of taxing digital transactions, cross-border trade, and intangible assets.
5. **Capacity Building for Tax Officials:** Provide continuous training in digital tools, data analytics, and cybersecurity to strengthen institutional readiness.
6. **Institutional Integration and Collaboration:** Foster collaboration between FIRS, SIRS, banks, telecom operators, and other stakeholders to create a unified digital tax ecosystem.

## **5.6 Contribution to Knowledge**

This research makes important contributions to knowledge by providing empirical evidence on the relationship between the digital economy and tax administration effectiveness in Nigeria. It shows that digital reforms, when coupled with adequate infrastructure and institutional capacity, significantly improve efficiency, compliance, and revenue mobilization. The study also extends existing literature by linking digital adoption directly to taxpayer perceptions and compliance behavior, highlighting the importance of trust and awareness in sustaining reforms. For policymakers and practitioners, the findings demonstrate that digital transformation is not merely a technological innovation but a strategic necessity for fiscal sustainability in Nigeria.

## **5.7 Suggestions for Further Research**

Future research could build on this study in several ways. Comparative studies across African countries would provide valuable benchmarks for Nigeria's progress in digital taxation. Further investigation into the legal and regulatory frameworks needed to capture cross-border transactions and intangible assets would help address existing gaps. Longitudinal studies could assess the long-term impact of digital reforms on revenue performance and compliance. Sector-specific analyses, focusing on industries such as

telecommunications, e-commerce, and fintech, would also shed light on how different segments of the digital economy contribute to the tax system. Finally, research into taxpayer attitudes, digital literacy, and trust in public institutions would deepen understanding of the behavioral dimensions of digital compliance.

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**APPENDIX**  
**QUESTIONNAIRE ON**  
**DIGITAL ECONOMY AND TAX ADMINISTRATION EFFECTIVENESS**

**Section A: Demographic Information**

(Please tick ✓ the appropriate option)

1. Gender:

☐ Male

☐ Female

2. Age Bracket:

☐ 18–25 years

☐ 26–39 years

☐ 40–49 years

☐ 50 years and above

3. Educational Qualification:

☐ OND/NCE

☐ Bachelor's Degree (BSC/BA)

☐ Master's Degree (MSC/MA)

☐ Doctorate (PhD)

☐ Other (please specify) \_\_\_\_\_

4. Years of Work Experience:

☐ Less than 5 years

☐ 5–10 years

☐ 11–15 years

☐ Above 15 years

5. Department/Unit:

☐ FIRS Staff

☐ SIRS Staff

☐ Registered Taxpayer

☐ Tax Consultant

☐ Other (please specify) \_\_\_\_\_

### Response Scale (for Sections B–E)

Please indicate your opinion on each statement by ticking the appropriate option: SA =

Strongly Agree, A = Agree N = Neutral, D = Disagree, SD = Strongly Disagree

#### Section B: Digital Economy and Tax Administration Effectiveness

| S/<br>N | Statement                                                                                 | SA                       | A                        | N                        | D                        | SD                       |
|---------|-------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 6       | The digital economy has widened the tax base in Nigeria.                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7       | Adoption of e-filing has improved transparency in tax administration.                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8       | Digital platforms reduce opportunities for corruption and leakages in tax administration. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9       | Online transactions provide reliable data that can support tax monitoring.                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10      | Digital payment systems have reduced delays in tax collection processes.                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

#### Section C: Technology Infrastructure and Tax Administration Effectiveness

| S/N | Statement                                                                               | SA                       | A                        | N                        | D                        | SD                       |
|-----|-----------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 11  | Technology infrastructure is adequate to support digital tax administration in Nigeria. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12  | Poor internet connectivity limits the effectiveness of digital tax platforms.           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13  | Availability of digital tools improves efficiency in tax collection.                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14  | Lack of integration between tax databases reduces the benefits of digitalization.       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15  | Investment in modern technology infrastructure enhances taxpayer compliance.            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

### Section D: Digital Economy Adoption and Tax Revenue Performance

| S/<br>N | Statement                                                                              | SA                       | A                        | N                        | D                        | SD                       |
|---------|----------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 16      | The growth of e-commerce has increased potential tax revenue in Nigeria.               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17      | Electronic payment adoption improves tax revenue performance.                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18      | The use of digital platforms has significantly reduced tax evasion.                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19      | Digital monitoring tools enhance government's ability to track taxable activities.     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20      | Adoption of digital economy practices contributes to sustainable revenue mobilization. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

### Section E: General Perceptions and Compliance Behavior

| S/<br>N | Statement                                                                              | SA                       | A                        | N                        | D                        | SD                       |
|---------|----------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 21      | Digital platforms make tax compliance easier for taxpayers.                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22      | The cost of compliance reduces when using digital tax platforms.                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 23      | I trust digital tax platforms more than traditional/manual systems.                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24      | The government has not done enough to sensitize taxpayers about digital tax platforms. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25      | Overall, the adoption of the digital economy has improved the effectiveness            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|         | of tax administration in Nigeria.                                                      |                          |                          |                          |                          |                          |