

DIGITAL TAXATION AND REVENUE COLLECTION IN NIGERIA

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BENIN CITY

AUGUST, 2024

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**BEING A PROJECT WORK SUBMITTED TO THE DEPARTMENT OF
ACCOUNTING, FACULTY OF MANAGEMENT SCIENCES, UNIVERSITY OF BENIN,
BENIN CITY, NIGERIA IN PARTIAL FULFILLMENT OF THE AWARD OF
BACHELOR OF SCIENCE (B.Sc.) DEGREE IN ACCOUNTING**

AUGUST, 2024

DECLARATION

I, **EGUAVOEN Henrietta Odion** hereby declare that:

- i. This project is based on a study undertaken by me in the department of Accounting, University of Benin, under the supervision of **Dr. (Mr.) U. OBAZEE**
- ii. This work has not been previously submitted for the award of degree elsewhere.
- iii. All ideas and views are products of my personal research and where the views of others have been expressed, they have been duly acknowledged.
- iv. Any litigation or liability arising from the work is wholly borne by me and not the supervisor.

EGUAVOEN Henrietta Odion

Date

CERTIFICATION

We certify that this project work was carried out by EGUAVOEN **Henrietta Odion** with Matriculation Number: **MGS1712668** in the Department of Accounting, University of Benin, Benin city in partial fulfillment for the award of Bachelor of Science (B.Sc.) degree in Accounting.

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DEDICATION

This project is dedicated to God Almighty for his grace and mercy upon my life and for the strength all through my academic pursuit and aspirations. To my family and friends, who have been my constant source of inspiration, I want to specially thank you.

ACKNOWLEDGEMENT

The success and the outcome of this project was made possible by the guidance and support from so many people both far and near.

First of all, my gratitude to the Almighty God, for his immense provision, protection and guidance all through my academic pursuit, for without him, I doubt if this pursuit would have been possible.

I, also want to thank H.O.D. Dr. OSASU OBARETIN, and my Project supervisor and project coordinator DR. UYI OBAZEE for their support, patience, motivation, and immense knowledge. Their guidance helped me all through the period of my research and project completion.

Many thanks goes to my Lecturers for their support and encouragement on my academics, for the instilling of moral values and the impacting of knowledge on me.

My heart felt appreciation goes to my Parents, MR. and MRS.EGHOSA EGUAVOEN for their support morally, for your prayers and financial support I'm really grateful.And to my wonderful siblings you guys have been awesome all through this journey, thanks for your massive support and encouragement through my bsc program I really appreciate,may the good Lord bless you all.

Finally, my gratitude goes to the entire non-academic staffs of department of accounting who has in one way or the other made this journey a success,may God bless you all.

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ABSTRACT

The advent of digital technologies has significantly transformed the landscape of taxation and revenue collection. This project investigates the impact of digitalization on tax systems, focusing on how digital tools and platforms can enhance efficiency and compliance while addressing challenges such as tax evasion and administrative complexity. The study uses a questionnaire to extract data from correspondents through the adoption of the sampling technique combining qualitative interviews with tax professionals and quantitative analysis of digital taxation models in various jurisdictions.

The research reveal that digital taxation, including the use of e-filing systems, online tax payments, artificial intelligence and digital tax records, can streamline revenue collection processes, reduce errors, and improve taxpayer engagement. However, challenges such as data security, the digital divide, and the need for updated regulatory frameworks remain significant.

This study recommends that Governments should invest in robust digital platforms and cybersecurity measures to support efficient and secure tax. Also Government should enhance training and support for tax payers to facilitate smoother transitions to digital systems by adapting tax laws and regulations to keep pace with technological advancement which is crucial for maintaining effective and fair taxation.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Taxation in Nigeria represents a pivotal component of the nation's economic framework, serving as a significant source of government revenue and playing a crucial role in socio-economic development. According to the National Bureau of Statistics (NBS), tax revenue contributed approximately 10.8% to Nigeria's Gross Domestic Product (GDP) in recent years (Aljazeera, 2023). This figure underscores the critical importance of efficient tax collection and administration for the country's financial stability and growth. The relevance of tax income to the Nigerian economy cannot be overstated; it finances public expenditures, infrastructure development, and social services, which are essential for the well-being of the population and the overall economic prosperity. Moreover, the effectiveness of tax practices directly impacts the government's ability to mobilize domestic resources for development purposes, as emphasized by the International Monetary Fund (IMF) in its assessments of Nigerian fiscal policies (IMF, 2019).

The evolution of tax systems globally is marked by significant milestones that reflect the changing societal, economic, and technological landscapes. From the rudimentary forms of taxation in ancient civilizations, aimed at funding military campaigns and public works, to the more structured and complex tax systems of modern states, the development of taxation has been

intertwined with the history of human civilization. Notable events that have shaped the global tax landscape include the introduction of income tax in Britain in the 18th century as a temporary measure during the Napoleonic Wars, which later became a permanent fixture in the tax system (Rutherford, 2021). The 20th century saw further evolution with the advent of progressive taxation and the widespread adoption of Value-Added Tax (VAT), reshaping the way governments raise revenue and redistribute wealth (Martínez-Vázquez et al., 2023).

In the specific context of Nigeria, the evolution of tax practices has been influenced by a myriad of factors, including colonial legacy, post-independence economic policies, and more recently, globalization and digitalization. The colonial tax systems were primarily extractive, focusing on revenue generation for the colonial administration with little consideration for equity or economic development (Gwaindepi, 2023). Post-independence, efforts were made to reform the tax system to better serve the developmental needs of the newly sovereign nation, leading to the establishment of the Federal Inland Revenue Service (FIRS) and the adoption of various tax laws and reforms aimed at enhancing tax administration and compliance (Dekker, 2020).

The advent of digital technologies has ushered in a new era for taxation globally, including in Nigeria. Digitalization in tax administration encompasses the use of information and communication technologies (ICT) to enhance tax collection, compliance, and taxpayer services. In Nigeria, initiatives such as the Integrated Tax Administration System (ITAS) and the adoption of electronic filing and payment systems represent significant strides towards leveraging digital technologies to improve tax practices (Ali et al., 2023). These technologies facilitate more

efficient and transparent tax administration, reduce compliance costs for taxpayers, and help combat tax evasion and fraud.

Digital taxation have revolutionized tax practices by introducing efficiency, transparency, and greater compliance. E-filing, online tax payments, and digital tax records have significantly reduced the bureaucratic hurdles previously associated with tax administration (Bevacqua, 2020). In Nigeria, the adoption of these technologies has enhanced taxpayer convenience, enabling individuals and businesses to fulfill their tax obligations with greater ease and accuracy.

The integration of digital technologies in tax revenue collection represents a transformative shift in how tax administrations operate and engage with taxpayers. This digital transition is not merely about adopting new tools but also about reimagining the entire tax administration process to make it more responsive to the needs of a dynamic economy. The use of digital platforms for tax services not only streamlines processes but also enhances the government's capacity to analyze data for policy-making, ultimately leading to a more efficient, equitable, and transparent tax system (World Bank, 2019). As Nigeria continues to navigate the challenges and opportunities presented by digitalization, the potential for digital technologies to further improve tax practices and contribute to the country's economic development remains significant. This study aims to explore on the impacts of digital taxation and revenue collection in Nigeria.

1.2 Statement of the Research Problem

Tax revenue collection in Nigeria has been marred by inefficiencies and irregularities, significantly attributed to the prevalence of poor tax compliance and enforcement mechanisms, alongside a notable increase in tax evasion behaviors among taxpayers. Scholars such as Simeon et al. (2017); Eze et al. (2016) have highlighted the challenges faced by tax regulators in Nigeria, including inadequate taxpayer education, complex tax systems, and lack of efficient tax administration. These challenges have not only undermined the effectiveness of the tax system but have also resulted in substantial revenue losses for the government. In response to these challenges, Nigerian tax administrators have increasingly turned to digital technologies as a strategic tool to enhance revenue collection. This includes the adoption of electronic tax filing (e-filing), online tax payment systems. These technological interventions aim to streamline tax administration processes, improve taxpayer compliance, and reduce the incidence of tax evasion (Okunogbe & Santoro, 2023).

Essentially, despite the growing adoption of digital technologies in tax administration in Nigeria, the literature presents a fragmented understanding of its effects on revenue collection. Several studies have delved into this area, each employing distinct variables to measure the impact of digital taxation on revenue collection. For instance, Ejiku (2019) investigated the role of electronic tax system on local revenue collection, focusing on variables such as tax identification numbers, electronic tax clearance certificates, and automated tax systems. On the other hand,

Hanrahan (2021); Yusuf (2022); Mohammed et al. (2023) explored the impact of digitalization on tax revenue generation, using variables like electronic revenue collection systems, digital taxpayer databases, and online tax services. These studies, while reinforcing the positive effect of digital taxation on revenue collection, highlight the diversity in the variables used, pointing to a gap in the literature. This current study seeks to bridge this gap by focusing on variables such as e-filing, online tax payments, and Artificial Intelligence (AI), which have not been collectively examined in the context of Nigeria's tax revenue collection. By doing so, it aims to provide a more comprehensive understanding of the effect of digital taxation on tax revenue collection.

1.3 Research Questions

The study will provide answers to the following research questions:

- 1). How does the implementation of e-filing systems impact revenue collection in Nigeria?
- 2). In what ways do online tax payment platforms affect revenue collection in Nigeria?
- 3). What is the role of Artificial Intelligence (AI) in revenue collection in Nigeria?

1.4 Research Objectives

The broad objective of this study is to examine the effect of digital taxation on revenue collection.

Specifically, the study sought to:

- 1). evaluate the impact of e-filing systems on revenue collection in Nigeria;

- 2). assess the effect of online tax payment platforms on revenue collection in Nigeria;
- 3). examine the role of Artificial Intelligence (AI) in revenue collection in Nigeria.

1.5 Research Hypotheses

The hypotheses of this study stated in a null form is as follows:

H01: The implementation of e-filing systems has no significant impact on revenue collection in Nigeria.

H02: Online tax payment platforms do not significantly affect revenue collection in Nigeria.

H03: Artificial Intelligence (AI) do not play a significant role in tax revenue collection in Nigeria.

1.6 Scope of the Study

The purpose of this study is to investigate the effect of digital taxation on revenue collection in Nigeria. However, this study is limited to Benin City, Edo State as its Geographic location and will focus specifically on opinions from staff of the Edo State Inland Revenue Service and tax payers that reside around Ugbowo, Ovia North East in Edo State Benin City. The choice of this geographic location is justified based on the proximity as well as the availability of the population needed for this study. Specifically, the study will examine the effect of E-filing systems, online tax payments, and Artificial Intelligence on revenue collection in Nigeria. The

study will use a questionnaire to extract data from the respondents of the study which shall be selected through the adoption of the convenience sampling technique.

1.7 Significance of the Study

This research study on the effect of digital taxation on revenue collection in Nigeria holds significant implications for various stakeholders, ranging from government bodies to individual taxpayers, businesses, and the academic community. The relevance and importance of such a study can be articulated through its potential impact on these stakeholders:

a). Government and Policy Makers: For government bodies, including the Federal Inland Revenue Service (FIRS) and the Ministry of Finance, this study offers insights into the effectiveness of current digital initiatives and their impact on tax compliance and revenue generation. It will inform policy decisions, highlight areas requiring further digital infrastructure investment, and help in designing strategies to enhance taxpayer engagement and compliance. By understanding the efficiencies and challenges introduced by digital technologies, policy makers can tailor regulatory frameworks that foster an environment conducive to voluntary compliance and increased revenue collection.

b). Taxpayers (Individuals and Businesses): Taxpayers stand to benefit from a deeper understanding of how digital technologies can simplify tax compliance, reduce errors, and save time. The findings will highlight the user-friendliness of digital tax platforms, potentially increasing their adoption among taxpayers. This can lead to a more positive taxpayer experience,

reducing the perceived burden of tax compliance and fostering a culture of timely and accurate tax submissions.

c). Tax Professionals and Consultants: For professionals in the tax advisory and consultancy domain, this study provides a comprehensive analysis of the current landscape and emerging trends in digital taxation. This knowledge is crucial for advising clients on compliance strategies, optimizing tax liabilities, and navigating the digital tax environment effectively. It also enables tax professionals to anticipate changes and adapt their practices to leverage digital tools for enhanced service delivery.

d). Technology Developers and Service Providers: For companies and individuals involved in developing tax-related digital solutions, the study offers valuable feedback on the effectiveness, usability, and impact of their products. It may guide the development of new features, user interfaces, and functionalities that align with the needs of taxpayers and tax administrators, fostering innovation and competition in the digital tax services market.

e). International Organizations and Development Partners: International bodies such as the World Bank, IMF, and development agencies interested in promoting good governance and economic development can use the findings to tailor their support and interventions in Nigeria and similar contexts. Understanding the impact of digital taxation can inform capacity-building programs, technical assistance, and funding priorities aimed at enhancing tax systems and governance structures in developing countries.

f). Academic Researchers and Institutions: In the academic realm, this study contributes to the body of knowledge on the intersection of technology and taxation, a relatively nascent field with significant implications for fiscal policy and administration. It opens avenues for further research, encourages interdisciplinary collaboration, and provides a basis for curriculum development in areas related to taxation, information technology, and public administration.

1.8 Operational Definition of Terms

The following key terms are operationally defined as used in the study:

a). Digital Technologies in Taxation: Refers to the use of information and communication technologies (ICT) to support, enhance, and automate the processes involved in tax administration, including tax collection, compliance, reporting, and auditing. Examples include e-filing systems, online payment platforms, digital tax records, and digital auditing tools.

b) E-filing Systems: Electronic filing systems that allow taxpayers to submit their tax returns and documents over the internet directly to the tax authorities. E-filing systems aim to improve the efficiency of tax submissions, reduce paper usage, and expedite the processing of tax returns.

c). Online Tax Payment Platforms: Web-based or app-based services that enable taxpayers to make tax payments electronically. These platforms facilitate secure and convenient transactions, often in real-time, reducing the need for physical visits to tax offices and improving the timeliness of tax payments.

d). Artificial Intelligence (AI): AI, refers to the development of computer systems that can perform tasks that typically require human intelligence. These tasks include learning, reasoning, problem-solving, perception, language understanding, and even decision-making. AI systems are designed to emulate human

e). Tax Practices: Encompasses the methodologies, procedures, and activities involved in the administration, collection, enforcement, and compliance of taxes within a jurisdiction. Tax practices include the preparation and filing of tax returns, tax payments, audits, and adherence to tax laws and regulations.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This study review aims to delve into the diverse body of research that examines the relationship between digital taxation and revenue collection in Nigeria. By exploring a range of theoretical perspectives, empirical studies, this review seeks to shed light on the ways in which E- filling tax systems, online tax payment platform, and (AI) Artificial intelligence can affect revenue collection in Nigeria.

2.1.1 Conceptual Framework

The study reviewed all variables as related to dependent and independent variables, as well as their inter relationships.

2.1.2 Concept of Taxation

Taxation refers to obligatory or coercive cash collection through a levying authority, typically a government. The term "taxation" applies to all forms of involuntary levies, from profits to capital profits to property taxes. According to MqcLure (2015), taxation is an obligatory monetary price or a few different form of levy imposed upon a taxpayer (a person or different felony entity) through a governmental company with the intention to fund numerous public expenditures.

Taxation according to Chijioke et al (2018), is an obligatory levy by the Government collected through its agency from its subjects. These levies are made on non-public income, inclusive of salaries, commercial enterprise profits, interests, dividends, reductions, and royalties. It is likewise levied towards the company's profits, petroleum profits, capital profits, and capital transfer. Taxation is the most important source of revenue for modern governments, typically accounting for ninety percent or more of their income. Tax is a common source of income generation for financing government activities. Individuals and organizations are expected to fulfill their obligations on tax payments as required by law to give the government financial power. Therefore, effective taxation becomes important as it is a source required for financial power for a government to provide social services for its citizens (Chijioke et al,2018).

2.1.2.1 Tax Revenue Collection

Revenue collection generally relates to a government agency's actions to collect outstanding financial obligations from the public. Revenue might come from a variety of sources: taxes, license fees, fines or use of state facilities (Onyegbule, 2016). Campbell, (2019) stated that revenue collection frequently refers to a government agency billing the public or a member of the public for fines, taxes or any other fees. Taxpayers' perception of the use of tax revenue has been identified as one of the major factors that influence tax collection process.

According to Onoja and Ewarere (2015), an average Nigerian has no trust in government and is not encouraged to entrust his resources, hence, payment of taxes are ranked among the least

obligation they owe to the government. This is because taxpayers perceive that tax revenue collected is used to cater for the needs of government functionaries and their close associates rather than the needs of taxpayers (Dauda & Saidu, 2014; Nwocha, 2017). Whenever tax revenue is not properly utilized for the benefit of the citizenry, it creates mistrust between tax authority and taxpayers (Adedoyin & Adekanmi, 2016; Nwocha, 2017). Leyira, Chukwuma and Asian (2012) assert that the Nigeria tax system has faced a lot of challenges over the years which has impacted the tax revenue collection and hampered national development. According to them, some major problems that have given rise to low tax revenue yield over the years include: poor information management system, poor record keeping and data preservation by tax administrators, complex and cumbersome tax laws, corruption and leakages in the administrative system.; poor and irregular monitoring and compliance visits, Irregular tax assessment, poor inter-agency interface and synergy approaches, Inability to bring the informal private sector into the tax net. As such, Odusola (2016) is of the view that, the quantum of revenue generated from taxes over the years by the government is grossly insufficient in relation to the ever increasing social, political and infrastructural developmental needs of the country. A number of factors are responsible for tax revenue loss in Nigeria, which may include tax fraud, non-tax compliance, wastages of public fund, corruption in tax administration.

2.1.3 Digital Technologies

Digital technologies are electronic tools, systems, devices and resources that store, generate, or process data (Victor et al, 2019). Digital technologies have the potential to strengthen tax administration and enhance domestic revenue mobilization; such mobilization has been a long-standing challenge (particularly in developing countries) for scaling up priority social and infrastructure spending. Over the past few decades, tax administrations have adopted new technologies to enhance the effectiveness of tax collection, yet they have also introduced new challenges (Gupta, et al 2017; Amaglobeli et al, 2023). Recent literature offers rich empirical evidence that quantifies the revenue yields from the adoption of digital technologies in tax administration while pointing to the importance of developing enabling fundamentals (Okunogbe and Santoro 2023).

2.1.4. E- Filing Systems

Electronic filing, otherwise known as e-tax filing is the procedure of releasing returns from tax payer to the tax authority, via the internet. This is a digitalized method of remitting tax returns which is believed to bring about several benefits, which include: time-saving and convenience. This system warrants that the taxpayer is self-compliant and is capable of computing their tax payable to the tax authority independently (Monica, Makokha & Namusonge, 2017). This implies that their inability to make use of e-tax filing method due to incompetence will leave them with no other options than to adopt the manual means of filing their taxes. E-tax

filing covers all individual returns and business returns. It is a popular tax collection method mostly used in developed countries.

Akpu and Ohaka (2017) highlight that e-tax filing offers numerous advantages in tax collection. Mostly, it offers tax payers with the convenience of paying their taxes; as taxpayers can file their taxes anytime and anywhere, without disrupting their activities, mostly for those who go to work. Agrawal (2012) includes that e-filing provides tax payers with security and privacy in tax payment. Babatunde (2018) agrees that these benefits would help integrate small and medium enterprise owners to pay their taxes. Thus, e-filing will help to improve tax compliance and tax evasion problems; thereby help the tax administrators to raise sufficient funds for the government (Okauru, 2011; Wamathu, 2014).

However, electronic tax filing has its shortcomings. First, not everyone can afford an electronic internet-enabled device like a computer or an android phone. This could deter taxpayers from making use of e-filing to remit their taxes. Also, everyone is not technology and internet knowledgeable. The introduction of e-filing assumes that every taxpayer has knowledge in making use of the internet and can operate technological devices. This may not be so, as older generations are more susceptible to the problems of operating a technological device and making use of the internet. This is mainly because many of the technological advancements occurred after their prime age.

According to PWC Nigeria (2015) the basic features of the e-filing system include the following:

a). Online submission of tax returns: The system consists of an online portal through which taxpayers submit returns for different taxes such as companies income tax, capital gains tax, value added tax, petroleum profit tax etc. once the taxpayer registers, an e-tax filling account will then be created based on the type of taxes the company or individual is liable to pay. A taxpayer will however only be able to file returns based on the tax it registered for.

b). Electronic tax clearance certificate (eTCC): Under the manual system, a tax clearance certificate(TCC) is usually issued by the board to the taxpayers whenever the board feels that tax assessed on profits or income of a taxable person has been fully paid or no tax is due on such profit. With the introduction of ITAS, taxpayers can now apply for a TCC online which would be generated by the system that will be just as tenable as the hard copy handed out. The system allows for TCC validation so that a TCC can be verified by third parties online using the TCC number when doing business. It also provides temporal TCC where there is an unresolved dispute concerning taxes so that the taxpayer does not suffer unduly for the delay. A full TCC can be obtained after the dispute is settled

c). Validation of Tax Identification Number (TIN): This feature is specifically useful in verifying the tax identification number for withholding tax purposes amongst a group of other taxes. The process ensures accountability as well as validation of tax transaction with the taxpayer

d). Online correspondence with FIRS: The portal has a message center feature that allows for communication between the tax payer and FIRS. The tax account manager in the FIRS will be responsible for correspondence with the tax payer and the FIRS can also issue assessments which taxpayers can object to using the message center.

2.1.5. Online Tax Payment Platforms

E-Payment systems refer to the automated processes of exchanging monetary value among parties in business transactions and transmitting this value over the ICT networks (Nnaka, 2009; Ayo, 2012). In Nigeria, e-payment is effecting payment from one end to another end through the medium of the computer without manual intervention beyond inputting payment data; it is the ability to pay the suppliers, vendors and staff salaries electronically at the touch of a computer button (Asaolu, Dopemu & Unam, 2011).

In the year 2015, the Nigerian government introduced the e-tax system to its taxpayers and became operational in 2017. Ninety-two (92) economies had fully introduced electronic filing and tax payment in the World Bank and Price Water Coopers paying tax report (2018), as calculated by doing business in 2016 and twenty of them had adopted or developed their program over the past twelve (12) years. Dowe (2008) indicated that tax authorities worldwide use electronic tax administration systems to communicate with the tax paying public in tax collection, administration, and enforcement settings to increase tax administration efficiency and effectiveness. Globally, the rationale for adopting e-taxation includes: increasing revenue

generation, supporting administrative and fiscal purposes at all levels of government, dealing effectively with bureaucracy by tax authorities involved in manual tax administration, improving faster tax refund procedures, tax assessment processes, and helping tax authorities reduce and possibly eliminate tax evasion.

According to Pemu (2017), the electronic tax payment system commenced operations in Nigeria in the year 2017 with different components such as electronic filing, electronic registration, electronic tax clearance certificate, electronic stamp duty, electronic receipt, and electronic tax payment. The electronic tax system is expected to promote efficiency, accountability, compliance, increase revenue and curb leakages in the Nigeria tax system. However, this objective has not been achieved because of the low ranking of Nigeria at 171 out of 190 economies surveyed in the ease of paying taxes in 2018. The present ranking seems to lend credence to a lack of proper implementation and fully automated electronic tax payment system in Nigeria. The issue of proper implementation and fully automated electronic tax payment system enables transparency of the tax system in a country, ensure that defaulters are easily punished and also simplified the means of paying tax. If an electronic tax payment system is properly administered in Nigeria, it can be a solution to the country's poor tax to GDP ratio. The figure, which stands at 6 percent is significantly lower than the average tax-

The electronic tax payment system has proved to be a master tool in combating the challenges of any tax system as it provides information, education and support to taxpayer and facilities

compliance and administration. It also guarantees a reduced cost of administering taxes and saves time (Abah, 2015). Umenweke and Ifediora (2016) opine that e-taxation is an automated process gradually phasing out the manual tax administration globally. It is achieved as taxpayers pay their taxes electronically quickly from the comfort of their homes, workplaces and other places where internet is available. Thus, tax authorities on their web portal will go after the defaulters via the taxpayer's electronic tax history.

Technologies for electronic identification and transaction processing have been shown to enhance governments' capacity to manage expenditure and prevent leakages (Muralidharan et al.2016, Banerjee et al .2020). It is thus a natural extension to investigate the contribution of electronic payment technology to enhancing also other aspects of state capacity, namely tax capacity (okunogbe & Santoro, 2021)

Following the adoption of e-system of taxation, returns or payments are made online from the taxpayers corporate bank account. This application which was developed in conjunction with the Nigeria Inter-Bank settlement system (NIBBS) is hosted on the respective commercial bank's internet-banking platform. The process can be done in various ways including:

a). Through the atm/debit/credit card: Here the taxpayer simply logs into the website of the relevant tax authority with his TIN and then completes the form choosing atm/credit card as a means of payment based on the selected tax levy. After entering pin and authorizing payment, a printable e receipt is then made available to the taxpayer.

b). Directly through bank accounts: Here the tax payer pays in the relevant collecting bank by cash or cheque and then enters the transaction password or teller number online logging on with his TIN.

C). National electronic fund transfer: Here the tax payer instructs his bank to make payments into the relevant collecting bank which when done provides the tax payer the relevant transaction codes for the payment. He then enters the code online and is furnished with an e- receipt as prove of payment.

2.1.6. Artificial intelligence

Artificial intelligence (AI) is a broad term that refers to techniques making machines “intelligent”. AI research and application utilize automation to enhance or replicate human intelligence to improve the analysis and decision-making capabilities of machines. AI provides managers with unprecedented tools to ease the complexity of decision-making, serving as a catalyst for internal structural transformation in various industries. It also allows complicated and time-consuming tasks to be completed more effectively and efficiently. Undoubtedly, artificial intelligence, or AI, is one of the most significant and at the same time intimidating disruptive technologies as of yet (Clifford, 2019) . AI was first founded in 1955 and has since then undergone several waves of changes (Huang & Smith, 2006).

Ransbotham et al. (2018) presents a more contemporary view of AI, arguing that AI is the integration of human-like intelligence in machines. The basic idea behind AI is that it puts in a context to make intelligent decisions based on the information at hand. AI has become an integral part in many industries including marketing, healthcare, and cybersecurity, etc (Nadikattu, 2016). According to Nadikattu (2016) AI uses algorithms to execute tasks, which are set on explicit instructions that a computer can run. Similarly, to when a person uses his intelligence to analyze a situation based on his own experiences, AI algorithms are capable of learning from data. AI algorithms evolve by analyzing which strategies have worked well in the past or they can rewrite algorithms all by themselves (Katsikeas et al. 2016).

2.1.6.2 Development of Artificial Intelligence in Taxation

Pascal A. Bizarro and Margaret Dorian (2017) pointed out that artificial intelligence (AI) was born in 1948, when William Gray Walter created two small robots, named “Elmer” and “Elsie”, that were able to recognize and respond to stimuli while encountering obstacles. Two years later, Alan Turing (1950) proposed that a machine could transmit information, communicate, and possess thinking capabilities indistinguishable from those of humans. In 1956, the Dartmouth workshop proposed the term “artificial intelligence”, marking the birth of AI as a discipline. Since then, the AI phenomenon has received considerable attention in various fields. According to the 41st “Statistical Report on Internet Development in China” in 2017, published by China

Internet Network Information Center (CNNIC), there are 2542 AI companies globally, including 1078 in the United States (accounting for 42.4%) and 592 in China (23.3%).

Familiar AI products include Apple's Siri, self-driven cars, and virtual reality head-mounted displays. In the field of taxation, this ever-developing technology can enhance the effectiveness of automated tax auditing and decision-making, and play an essential role in supervision and monitoring by the government.

2.1.6.3 How Is AI Applied in Taxation

To understand how AI is applied in taxation, Cas Milner and Bjarne Berg (2017) believe that AI's role in taxation is like a software that can automatically adapt to the input of different content and make judgments without specific instructions. While AI robots acting as tax accountants is currently believed to be unlikely, they can perform various roles, such as assisting tax auditors in detecting errors, classifying accounts and transactions, assessing tax audit risks, and increasingly propose favorable tax strategies within the framework of complex global laws. There are many prospects for applying AI in taxation.

Globally, an increasing number of countries are developing and diversely applying AI technology. With the rapid development of tax technology, the demand for AI in taxation is also growing. There are many reasons for this. For multinational companies, integrating data through AI will maximize their ability to collect and analyze data, and help them adapt to changing

policies on tax compliance processes. Moreover, automation will greatly increase the transparency of tax data, helping multinationals to satisfy government demands for accurate tax reporting, in detail and in real time, while also improving the development of government regulation.

As a result, AI is highly valued. Additionally, AI has been more prevalent due to government promotion. Through deployment of AI, the collection and organization of tax data becomes more systematic and transparent. This helps to curtail unreasonable tax avoidance by international companies, eliminate illegal tax evasion, help to curb multinational companies' profit transfers and tax base erosion. Applying AI to streamline tax data by government increases efficiency and compliance with current policies on tax reporting and reasonable tax avoidance. Furthermore, data collected through AI can be used to establish mathematical models, analyze the tax trends and indicators of various enterprises, and adjust various tax policies. For tax administration departments, processing tax data through AI accelerates the identification and analysis of the enterprise's tax problems, which may include unreasonable tax avoidance or tax evasion. Consequently, such problems can be immediately contained and enterprises can maximize their legitimate income. AI enhances the systematic processing and transparency of tax data, which increases the intensity of government supervision and motivates the ongoing development of AI.

2.2. EMPIRICAL REVIEW

There have been number of studies done to examine the impact of digital technologies on tax practices in Nigeria. This review seeks to explore the empirical findings, recommendations and analysis of other authors on the subject matter.

2.2.1. E- filling systems and Tax Revenue Collection

There are several empirical literature that offer some insights on the impact of e-filing on tax practices in Nigeria. An earlier study was conducted by Ofurum, et al (2018); which investigated the impact of e-tax on tax revenue in Nigeria. The study made use of quarterly data from 2013 to 2016, using paired sample statistic to analyse the data. Data were obtained from the FIRS and CBN Statistics. Descriptive analysis showed that pre-e-filing taxes were higher than post-e-filing taxes. Statistical analysis results found that the introduction of E-filing tax system has not significantly impacted tax revenue in Nigeria.

Alake and Olatunji (2012) examined the impact of electronic taxation on tax evasion and avoidance in Nigerian Banks. The objective of the study was to investigate the impact of electronic taxation on tax evasion and avoidance in Nigeria. Well-structured questionnaires were administered to the targeted respondents and were analyzed using descriptive statistics. The result of the analysis showed that adoption of electronic taxation in tax administration in Nigeria significantly reduces the incidence of tax evasion and avoidance in Nigeria.

Also, Alade (2018) conducted an empirical investigation that examined the impact of e-tax on fiscal revenue in Nigeria. The study adopted a different methodology by making use of company income tax and value-added tax as measures of tax sources. The data for the study spanned from 2012-2018 while omitting 2015 as the base year when e-filing was introduced. Therefore, the analysis covers two periods: pre-E-Tax filing (2012-2014) and post-e-filing (2016-2018). Data was sourced from the FIRS and CBN. The study just like other studies made use of the paired sample t-test and found a positive but insignificant variation in government revenue during pre and post-E-Tax filing periods.

Also, Ibrahim, Lamidi and Alias (2017) examined perceived usefulness and acceptance of tax E-filing system as measures of determining how effective the e-filing system can be used to generate fiscal revenue for both Malaysia and Nigerian governments. The study made use of primary data for its analysis, while descriptive statistics were used to analyze the datasets for both countries. The outcome of the study revealed that perceived usefulness is a significant determinant of e-filing system usage in Malaysia, but not for Nigeria owing to the role of government in supporting technological expansion in both countries.

In another study in Turkey by Allahverd, Alagoz and Ortakapay (2017) using secondary data from 1993 to 2016. This data was partitioned to pre-e-filing period (1993-2004) and post e-filing period (2005-2016) which was analyzed using Mann-Whiting U Test. The empirical result

shows that there was significant impact of E-tax filling on revenue even as it optimize the cost of tax collection.

Amaefule, okonya and Henry (2018) empirically examined the impact of E-taxation on Nigeria's revenue and economic growth. The study aimed at determining how the implementation of E-taxation in 2015 has affected tax revenue. Data were sourced through secondary means from Federal Inland Revenue service and CBN statistical economic reports on quarterly basis from the second quarter of 2013 to fourth quarter 2016. Analysis of data was done through the use of pairedsample t-test and simple repression. The findings of the analysis revealed that the implementation of electronic taxation has not improved tax revenue. It was recommended amongst others that federal government through the Federal Inland Revenue Services should conduct more enlightenment seminars in all 36 states in the country to increase the knowledge on the use of all electronic services on their platform.

2.2.2 Online Tax payment platforms and Tax Revenue Collection

For instance, Olurankinse and Oladeji (2018) examined self-assessment, electronic taxation payment systems and revenue generation in Nigeria. The study population comprised of 30 companies quoted in Nigeria stock exchange. Pearson's product moment correlation coefficient statistical tool and regression analysis were used to test the hypothesis by the application of SPSS Version 20.0. Results of the analysis indicated a positive and significant relationship

between self-assessment and e-taxation payments systems and revenue generation in Nigeria. ofurum,

Adegbie & Akinyemi (2020), examined the effect of electronic payment system on revenue generation in Lagos State. The main objective of the study was to ascertain the effect of electronic payment system on revenue generation in Lagos State. Data were sourced with the aid of questionnaire distributed to 366 staff among the six (6) selected revenue generating agencies in Lagos State. Analysis of data was done with the use of descriptive statistics, while hypotheses were tested using multiple regression model at 5% level of significance. The result of the analysis revealed that electronic payment variables (automated teller machine and electronic fund transfer) have significant and positive effect on personal income tax. The study concluded that epayment influenced revenue generation in Lagos State. They therefore recommended amongst others that for government organization to seek to achieve revenue optimization, its leadership style should be transparent and flexible enough so as to further positive changes.

Ofurum, Amaefule, Okonya & Henry (2018), evaluated the effect of E-taxation on Nigeria's revenue and economic growth: A pre-post analysis. The objective of the study was to ascertain the extent to which the implementation of E-taxation in 2015 has affected tax revenue, federally collected revenue and tax-to-GDP ratio. Data obtained were obtained from Federal Inland Revenue service and CBN statistical and economic reports on quarterly basis from the second quarter of 2013 to fourth quarter 2016. Analysis of data was done through the use of paired

sample t-test and simple regression. The findings of the analysis revealed that the implementation of electronic taxation has not improved tax revenue, federally collected revenue and tax-toGDP ratio in Nigeria. It was recommended amongst others that federal government through the federal Inland Revenue Services should conduct more enlightenment seminars in all 36 states in the country to increase the knowledge on the use of all electronic services on their platforms.

Monica, Makokha & Namusonge (2017), investigated the effect of electronic tax system on tax collection efficiency in domestic taxes department of Kenya revenue authority (KRA). The objectives of the study were to find out the effect of electronic tax filing on revenue collection efficiency; examine the effect of staff competency on revenue collection efficiency and to ascertain the level of taxpayers' knowledge in operating electronic tax system in Kenya. The main data collection tools were questionnaires administered to the employees of KRA and taxpayers. Descriptive and inferential statistics were employed as data analysis technique. Findings from the study revealed that most tax payers strongly agreed that they were able to fully access and operate the tax system. Secondly, Employees competence was a significant predictor of the tax collection efficiency while taxpayers seeking clarifications on tax issues online is minimal.

Okiro (2015) investigated the effect of e-payment system on revenue collection by the Nairobi City country government. The study specifically sought to assess the level of compliance to

budget estimates and effect of electronic payment adoption in revenue collection by the country government. Secondary data were sourced from the 18 Nairobi government department for the 3 years (2013-2015). Analysis of data was done using descriptive and inferential statistic. The result of the data analysis revealed that revenue collection significantly in Nairobi city has increase significantly after the adoption of electronic payment system in revenue collection.

Muturi and Kiarie (2015), examined the effect of online tax system on tax compliance among taxpayers in Meru, county, Kenya. The objective of the study is to establish the effect of online tax system on tax compliance among small taxpayers in county tax district. Multiple regression and descriptive statistics were used in data analysis. The findings of the study were that online tax system does affect tax compliance level among small taxpayers in Meru county. The study recommended that further study should be done to establish other factors that affect tax compliance among small taxpayers.

2.2.3. AI and Tax Revenue Collection

Yuda (2013) examined the use of ICT's influence on modernized Tax administration procedures and revenue collection in Taxpayer Department of Revenue Authority in Tanzania. The ICT was introduced in 2001 in the department for expediting maintenance and well-timed access to records. The study output, after descriptive research was employed, showed that ICT had influence on modernized Tax administration procedures and revenue collection in Taxpayer

Department of Revenue Authority in Tanzania. ICT minimized operational costs; removed postal delay, plug loss in revenue and curbed cheating.

Olatunji and Ayodele (2017) examined the impact of information technology on tax administration in South West, Nigeria. The study specifically investigated the effect of information technology on tax implementation and planning. Data was collected through the means of structured questionnaires, while multiple regression and Pearson product moment correlation were used to analyze the data. Findings from the analysis revealed that information technology enhance the level of tax productivity and administration. The study recommended respective agencies (Federal, State and Local Governments) responsible for tax collection should carry out one on one awareness in the form of seminars and sensitization of the process and suitability of information technology on tax administration.

2.3 THEORETICAL FRAMEWORK

The theoretical framework is the pillar that can support the theory of a research . The theoretical framework depicts the theory that evaluates why the research work under study exists. The theoretical framework of this research will evaluate the diffusion of innovation theory, and theory of acceptance model theory but the structure of this research will be centered on

2.3.1 Diffusion of innovation theory

Diffusion Innovation Theory is defined as the process by which an innovation is adopted and gain acceptance by users of certain community or population (Rogers & Coleman, 2003). The theory is employed in order to determine the factors affecting the usage of online tax system on self-employed taxpayers in Nigeria. This theory is reported to be a robust theory for conceptualizing adoption acceptance and implementation of innovation (Nassuora, 2012). The robustness of the theory is due to the level of its compatibility with the result of a previous study by Weng & Lin (2011). The theory was developed by Rogers in 1983. In the study, three major factors affecting diffusion of innovation theory are examined namely: the way information about online tax system is communicated; the period in which the online tax system is communicated; and the time with nature of the system to which the online tax system was introduced.

Welsh & Culler (2003) posit that users' perception of innovation characteristics is the major determinant of acceptance of innovation than the characteristic of experts. To Masrom & Hussein (2008) the importance of the Diffusion Innovation Theory can be explained in this study to provide the way any technology innovation moves from invention to widespread use. In a study conducted by Carter and Campbell (2011) on users' perception of information technology, the results reveal that almost all the characteristics postulated by Rogers' 1983 affect user's decision.

2.3.2 Theory of acceptance model

Developed by Davis et al. (2011), the Technology Acceptance Model (TAM) suggests two fundamental factors influencing an individual's acceptance of a new technology, namely; perceived ease of use (PEOU) and perceived usefulness (PU). PEOU is defined as the extent to which the user anticipates the target system to be effortless, while PU measures the users' subjective probability that applying a specific technology will increase their job performance (Fu et al., 2004). Derived from the Theory of Reasoned Action (TRA), TAM is an intention based model which is normally customized to meet the extensive needs of information technology research (Turner & Apelt, 2004). The key hypothesis of TAM is that the actual use of a new technology is a function of behavioral intentions, which also depend on users' attitudes (Seyal, et al., 2002).

A host of empirical studies has applied the TAM model, due to its parsimony and the multitude of experiential support for it (Bojuwon & Siti, 2014; Olaleye et al., 2020). For the specific studies on adoption of Internet based technologies, TAM has been proven to be a valuable, authoritative and robust model in describing the adoption criteria by the users (Horton, et al., 2001). Among the studies that have successfully applied TAM and found it to have almost accurate predictive power are but not limited to (Abu-dalbouh, 2013).

Davis (1989) defines perceived ease of use and perceived usefulness to be the degree to which the users believe that a particular innovation would enhance their performance. Additionally,

Davis (1989) theorizes that perceived ease of use and perceived usefulness are attributing factors of technology characteristics. This is an information systems model that shows how users come to accept and use a new technology. The assumption of this model is that the acceptability of an information system is determined by two factors, being perceived usefulness (PU) and perceived Ease of use (PEOU). Perceived usefulness is the extent to which a person believes that using a particular system would enhance his/her job performance, while PEOU is the degree to which a person believes that using a particular system would be free from effort. The relevance of the model to this study is based on the assumption of its perceived usefulness which provided the basis for the adoption and implementation of electronic tax system by FIRS in Nigeria; that is enhancement of tax revenue.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter addresses the methodology that will be used in attaining the set objectives of this study stated in chapter one. The issues covered in this chapter are the research design, population, sampling method, sources of data, and the technique employed to analyze the data collected.

3.2 Research Design

Research design pertains to the framework that establishes the suitable research approach for a study (Kothari, 2004). In this particular study, a cross-sectional research design was used for the study. In a cross-sectional research design, information is obtained through questionnaires from diverse individuals during a single instance. This design enables the researcher to observe variables without imposing any influence. Moreover, it aims to present a comprehensive and precise depiction of events, seeking to elucidate individuals' perceptions and behaviours based on the acquired data. One benefit of employing a cross sectional study design is it's capacity to facilitate the simultaneous comparison of multiple variables.

3.3 Population and Sampling

3.3.1 Population Size

In this study on the impact of digital revenue and tax collection in Nigeria, the population will consist specifically on opinions from staff of the Edo state Inland Revenue and residence of tax payers around Ugbowo, Ovia North East in Edo State Benin City. The choice of this geographical location is justified based on the proximity as well as the availability of the population needed for this study.

3.3.2 Sampling Method

This study will adopt non- probability sampling method (Convenience sampling). The convenience sampling is one in which the researcher selects whatever Sampling unit he or she has access to and are conveniently tested. Consequently, the questionnaires will be distributed to readily accessible respondents.

3.3.3 Sample Size

The sample size of the study will be the employees from the Edo state inland revenue service as well as tax payers who reside around Ugbowo, Ovia North East local government in Benin city, Edo state. Specifically opinions from fifty (50) employees will be gathered.

3.4 Sources of Data

The source of data for this study is the primary data as the questionnaire will be used to get required information from the respondents. Fifty (50) questionnaires will be administered among employees of the Edo state Inland Revenue board. Managers, accountants, tax personnels, tax consultants as well as Tax payers will be the respondents.

3.5 The Research Instrument

To collect data for this study, a carefully crafted questionnaire will be utilized. The questionnaire will be divided into two sections, denoted as part one, part two. Part one aims to collect demographic details from the respondents, whereas part two comprised queries tailored to align with the objectives of the research. All questions will adopt a modified five-point likert scale, spanning from Strongly Agree (SA) to Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD).

3.6 Model Specification

In line with the empirical and theoretical review of the study, digital taxation is seen to likely have an impact on tax revenue collection in Nigeria. In order to validate the empiricism of the proposed research framework, the study will be developed on a multiple regression econometric model which seeks to explain variations in the value of the dependent variable (Digital taxation)

on the basis of change in the independent variables (Tax revenue collection). The functional relation of the model is adopted from Captain and Brown (2014) in a similar context.

The model when written in functional form is given as

$$TRC = f(DIT, EFS, OTP, AIN) \dots \dots \dots (1)$$

When written in econometric form is given as

$$TRC = \beta_0 + \beta_1 EFS + \beta_2 OTP + \beta_3 AIN + U_t \dots \dots \dots (2)$$

Where:

TRC = Tax Revenue Collection

DIT = Digital Taxation

EFS = E-filing Systems

OTP = Online Tax Payment Platforms

AIN = Artificial Intelligence

U_t = Stochastic Error term

β_0 = Slope

$\beta_1 - \beta_4$ = Parameters

β_{1-5} less than or equal 0 (a priori expectation)

3.7 Operationalization of Variables

The objective of this research is to examine the impact of digital taxation on tax revenue collection in Nigeria. Initial data analysis will involve the use of descriptive statistics. The survey items will be presented as statements, and respondents will indicate their preferences by selecting the appropriate statements. Respondents will utilize a 5-point Likert scale, ranging from "Strongly Agree" to "Strongly Disagree" to express their agreement with the statements.

Table 3.1: Operationalization of Variables

S/N	Variables	CODE	Operationalisation	Sources
1.	Tax Revenue Collection	TRC	Respondents' Likert scores for statements related to digital taxation and its impact on tax revenue collection.	Chijioke et al (2018); (Gupta, et al (2017); Amaglobeli et al, (2023).
2.	Digital Taxation	DIT	Respondents' Likert scores for statements related to digital taxation such as, IT, ICT, AI, Electronic payment systems and E-filing systems	Victor et al, (2019); Okunogbe and Santoro (2023).
3.	E-Filing Systems	EFS	Respondents' Likert scores for statements related to E-filing systems.	(Monica, Makokha & Namusonge, 2017).
4.	Online Tax Payment Platforms	OTP	Respondents' Likert scores for statements related to online payment platforms and tax revenue collection	Muralidharan et al, (2016); Banerjee et al, (2020).
6.	Artificial intelligence (AI)	AIN	Respondents' Likert scores for statements related to Artificial Intelligence (AI) and its impact on tax revenue collection.	Ransbotham et al. (2018); Clifford et al, (2019).

Source: Researchers Compilation (2024).

3.9 Data Analysis Method

The responses from the distributed questionnaires will be analyzed using descriptive statistics and inferential statistics (regression analysis). The descriptive method will describe the data retrieved through the use of a table; each table will be followed by the interpretation of the result of the table. Simple percentages will be compared and findings will be presented, discussed, and interpreted. Deductive reasoning which is of immeasurable significance to the research objectives and hypothesis will also be used. The inferential statistics will be used to test the hypothesis of the study. The analysis will be conducted using the E.views statistical package econometrics software.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents the empirical analysis of the data retrieved from respondents in the field survey. Specifically, a total of one hundred (100) responses were retrieved via the online administered questionnaire. These responses were cleaned and analysed using the SPSS V22. software package. The results of the analysis were presented using tables for description (Simple Percentage, Mean and Frequency Count), and inferential statistical analysis for hypotheses testing.

4.2 Respondents' Profile

Section A: Biodata

Table 4.1 Demographic Information on Respondents

Variables	Frequency	Percentage
Gender		
Female	53	53.0
Male	47	47.0
Total	100	100.0
Age		
0-25yrs	38	38.0
26-30yrs	56	56.0
31-40yrs	6	6.0
Total	100	100.0
Academic Qualification		
MBA/MSC	2	2.0
Bachelors' Degree/HND	56	56.0
ND/NCE	14	14.0
Others	28	28.0
Total	100	100.0
Worker's experience		
Less than 5 years	75	75.0
5 – 10 yrs	20	20.0
11 – 15yrs	5	5.0
Total	100	100.0

Source: Researcher's fieldwork survey, 2024

Table 4.1 shows that out of a total of 100 respondents, 53 are female while 47 are male. In terms of age distribution, 38 of the respondents are within the age bracket of 0 to 25yrs, 56 of the total

respondents are within the age bracket of 26 to 30yrs, 6 of the total respondents are within the age bracket of 31- 40yrs.

In terms of academic qualification 2 of the respondents are MSC/MBA holders, 56 of the respondents are BSC/HND holders, 14 of the respondents are ND/NCE holders, while 28 of the total respondents are categorized under others. Also, in terms of working experience 71 of the respondents have work experience of less than 5 years, 29 of the respondents have work experience of 6 – 10 years.

4.3 Descriptive Analysis of digital taxation on Revenue Collection.

This section presents descriptive analysis on the data retrieved from respondents using frequency count, percentage (%) and mean.

4.3.1 Data Presentation and Analysis for the Independent Variables

The table below presents the descriptive analysis on the independent variables (e- filling systems, online tax payment platforms, and artificial intelligence) using frequency count, percentage and mean.

Table 4.2: Descriptive Analysis of E-filing Tax Systems

S/N	STATEMENT	Total Responses	%Response					Desc riptive	Standard D
			SA 5 f/(%))	A 4 f/(%)	U 3 f/(%)	D 2 f/(%)	SD 1 f/(%)	Mea n (x)	
1	The use of E-filing systems has increased the accuracy of tax submissions.	100 (100)	20 (20.0)	60 (60.0)	18 (18.0)	2 (2.0)		3.98	0.68
2	E-filing will help to improve tax compliance and tax evasion problems; thereby help the tax administrators to raise sufficient funds for the government	100 (100)	23 (23.0)	54 (54.0)	21 (21.0)	2 (2.0)		3.98	0.68
3	E-filing systems have enhanced accessibility and convenience for taxpayers.	100 (100)	25 (25.0)	44 (44.0)	26 (26.0)	5 (5.0)		3.89	0.83
4	The ease and convenience observed in e-tax (electronic tax) encourages high compliance from taxpayer	100 (100)	28 (28.0)	38 (38.0)	20 (20.0)	12 (12.0)	2 (2.0)	3.78	1.04
5	The security measures implemented in E-filing systems are reliable.	100 (100)	26 (26.0)	38 (38.0)	16 (16.0)	15 (15.0)	5 (5.0)	3.65	1.16
	Average		24.4 (24.4)	47 (47.0)	20.2 (20.2)	7.2 (7.2)	2 (2.0)	3.86	

Researcher's Fieldwork Survey (2024)

The data presented in Table 4.2, with an average rating of 3.86 on a scale up to 5, indicates a general consensus among respondents regarding e-filing tax systems. Specifically, the data elucidate the following perceptions; The use of E-filing systems has increased the accuracy of tax submissions scores an average of 3.98, E-filing will help to improve tax compliance and tax evasion problems; thereby help the tax administrators to raise sufficient funds for the government averages at 3.98, E-filing systems have enhanced accessibility and convenience for taxpayers rated at 3.89, E-filing systems have improved the speed of tax processing and refunds also stands at 3.78, and The security measures implemented in E-filing systems are reliable is marked at 3.65.

Furthermore, a significant portion of participants, 71.4% to be precise, either agree (24.4%) or strongly agree (47.0%) with the statements concerning the impact of e-filing systems as delineated in Table 4.2. In contrast, a minority of 9.2% express disagreement (combining those who disagree and strongly disagree), while 20.2% remain neutral or undecided on the matter. This distribution of responses underscores a predominant approval of E-filing systems among the surveyed individuals.

Table 4.3: Descriptive Analysis of Online Tax Payment

S/N		Total Responses	%Response					Descriptive	Standard D.
			SA 5 f/(%)	A 4 f/(%) p	U 3 f/(%)	D 2 f/(%)	SD 1 f/(%)	Mean (x)	
6	The use of online tax payment platforms has increased the timeliness of tax payments.	100 (100)	23 (23.0)	50 (50.0)	23 (23.0)	4 (4.0)		3.92	0.78
7	Automated electronic tax payment system enables transparency of the tax system in a country.	100 (100)	22 (22.0)	41 (41.0)	30 (30.0)	7 (7.0)		3.78	0.98
8	Online tax payment platforms have improved the accuracy of tax payments.	100 (100)	23 (23.0)	38 (38.0)	22 (22.0)	9 (9.0)	8 (8.0)	3.57	1.16
9	Using online platforms has reduced the administrative burden associated with tax payments.	100 (100)	29 (29.0)	38 (38.0)	13 (13.0)	14 (14.0)	6 (6.0)	3.7	1.19
10	The security measures implemented in online tax payment platforms are effective.	100 (100)	21 (21.0)	30 (30.0)	28 (28.0)	11 (11.0)	10 (10.0)	3.41	1.21
	Average		23.6 (23.6)	39.4 (39.4)	23.2 (23.2)	8.4 (8.4)	4.4 (4.4)	3.67	

Researcher's – Fieldwork Survey (2024)

The data presented in Table 4.3, with an average score of 3.67 out of a possible 5, indicates a general consensus among the participants as it relates to online tax payment. Specifically, the findings suggest the following: The use of online tax payment platforms has increased the timeliness of tax payments received an average rating of 3.92, Automated electronic tax payment system enables transparency of the tax system in a country, with an average rating of 3.72, Online tax payment platforms have improved the accuracy of tax payments evidenced by a mean score of 3.57, Using online platforms has reduced the administrative burden associated with tax payments is reflected by a mean value of 3.7. The security measures implemented in online tax payment platforms are effective received an average rating of 3.41

Furthermore, the data elucidates that a noteworthy proportion of the respondents, 63.% to be exact, displayed a favorable stance towards the statements pertaining to online tax payment with 23.6% expressing strong concurrence and 39.4% indicating agreement. In contrast, a dissenting viewpoint was held by 12.8% of participants (encompassing both strong disagreement and disagreement), while 23.2% remained neutral. This distribution underscores a predominant inclination towards the contributions of online tax payment platforms on tax revenue collection among the survey participants

Table 4.4: Descriptive Analysis of Artificial Intelligence

S/ N	STATEMENT	Total Responses	%Response					Descriptive Mean (x)	Standard D.
			SA 5 f/(%)	A 4 f/(%)	U 3 f/(%)	D 2 f/(%)	SD 1 f/(%)		
11	The use of AI has enhanced the accuracy of tax predictions and risk assessments.	100 (100)	32 (32.0)	44 (44.0)	12 (12.0)	10 (10.0)	2 (2.0)	3.94	1.00
12	The implementation of AI has led to better fraud detection and prevention in tax processes.	100 (100)	32 (32.0)	38 (38.0)	20 (20.0)	8 (8.0)	2 (2.0)	3.9	1.00
13	Artificial intelligence has (AI) influenced the automation of complex tax-related tasks	100 (100)	34 (34.0)	24 (24.0)	22 (22.0)	12 (12.0)	8 (8.0)	3.56	
14	AI has positively influenced decision-making processes in tax planning and compliance.	100 (100)	33 (33.0)	24 (24.0)	23 (23.0)	12 (12.0)	8 (8.0)	3.62	1.28
15	AI has contributed to the automation of routine and repetitive tasks in tax practices.	100 (100)	32 (10.4)	28 (28.0)	13 (13.0)	19 (19.0)	8 (8.0)	3.57	1.27
	Average		32.6 (32.6)	31.6 (31.6)	18 (18.0)	12 (12.0)	5.6 (5.6)	3.71	

Researcher's – Fieldwork Survey (2024)

The data presented in Table 4.5, with an average score of 3.71 on a 5-point scale, indicates a general consensus among participants regarding the application of artificial intelligence. Specifically, respondents agreed that the use of AI has enhanced the accuracy of tax predictions

and risk assessments (mean score = 3.94), The implementation of AI has led to better fraud detection and prevention in tax processes (mean score = 3.9). Artificial intelligence (AI) has influenced the automation of complex tax-related tasks (mean score = 3.56), AI has positively influenced decision-making processes in tax planning and compliance (mean score = 3.62), AI has contributed to the automation of routine and repetitive tasks in tax practices (mean score = 3.71).

Moreover, the data reveals that a substantial portion of the participants, 64.2% to be precise—comprising 32.6% who strongly agreed and 31.6% who agreed—affirmed the statements related to the role of artificial intelligence as outlined in Table 4.5. Conversely, a minority of 17.6% expressed disagreement (combining both strong disagreement and disagreement), while 18 remained neutral on the matter.

4.3.2 Data Presentation and Analysis for the Dependent Variables

The table below presents the descriptive analysis on the dependent variable (Revenue Collection) using frequency count, percentage and mean.

Table 4.5: Descriptive Analysis of Tax practices

S/ N	STATEMENT	Total Responses	%Response					Descripti ve Mean (x)	Standar d D
			SA 5 f/(%)	A 4 f/(%)	U 3 f/(%)	D 2 f/(%)	SD 1 f/(%)		
16.	The ease and convenience observed in e-tax (electronic tax) encourages high compliance from taxpayers.	100 (100)	31 (31.0)	50 (50.0)	16 (16.0)	4 (4.0)	1 (1.0)	4.06	0.83
17.	Digital technologies have enhanced the effectiveness of tax collection.	(100)	22 (22.0)	57 (57.0)	19 (19.0)	2 (2.0)		3.99	0.69
18.	Digital technologies have improved the accuracy of tax calculations.	(100)	23 (23.0)	52 (52.0)	22 (22.0)	3 (3.0)		3.95	0.75
19.	Digital technologies have positively impacted efforts to detect and prevent tax evasion.	(100)	26 (26.0)	44 (44.0)	25 (25.0)	4 (4.0)	1 (1.0)	3.90	0.90
20.	There are few challenges encountered in adopting digital taxation in collection of tax revenue.	(100)	28 (28.0)	39 (39.0)	27 (27.0)	5 (5.0)	1 (1.0)	3.88	0.91
	Average		26 (26.0)	48.4 (48.4)	21.8 (21.8)	3.6 (3.6)	0.4 (0.4)	3.96	

E.views – Field Survey (2024)

The data presented in Table 4.6, with an average score of 3.96 on a 5-point scale, indicates a generally positive consensus among respondents regarding their satisfaction with tax practices. This is evidenced by the following specific findings: The ease and convenience observed in e-tax (electronic tax) encourages high compliance from tax payers (mean=4.08). Digital technologies have enhanced the effectiveness of tax collection (mean=3.99), Digital technologies have improved the accuracy of tax calculations (mean=3.95), Digital technologies have positively impacted efforts to detect and prevent tax evasion (mean=3.90), There are few challenges encountered in adopting digital taxation in the collection of tax revenue (mean=3.88).

Furthermore, a substantial portion of the participant pool, 74.4%, have shown agreement (with 26.0% strongly agreeing and 48.4% agreeing) to the statements pertaining to tax revenue collection. Conversely, a smaller fraction of the sample, 4.0%, expressed dissent (encompassing both strong disagreement and disagreement), while 21.8% remained neutral.

4.4 Correlation Analysis

The results of the correlation analysis offer insights into the character and trajectory of the association between the dependent and independent variables. While the correlation coefficient itself does not establish a causal link between the variables, it serves as a valuable preliminary step in exploring the extent and orientation of their interrelation. These outcomes are elaborated upon in the subsequent sections.

Table 4.6**Correlation Result**

Correlations						
		TRV	EFS	OTP	INT	AIN
Pearson Correlation	TRV	1.000	.981	.992	.995	.963
	EFS	.981	1.000	.985	.982	.956
	OTP	.992	.985	1.000	.992	.970
	AIN	.963	.956	.970	.972	1.000
Sig. (1-tailed)	TRV	.	.000	.000	.000	.000
	EFS	.000	.	.000	.000	.000
	OTP	.000	.000	.	.000	.000
	AIN	.000	.000	.000	.000	.
N	TRV	100	100	100	100	100
	EFS	100	100	100	100	100
	OTP	100	100	100	100	100
	AIN	100	100	100	100	100

Source: Author's Estimation from SPSS 22, 2024.

The analysis revealed a positive correlation between E-filing systems and Tax revenue collection with a correlation coefficient (r) of 0.981 and a p-value of 0.000, indicating that E-filing systems will lead to a more effective tax revenue collection, a relationship that is statistically significant at the 5% level. Additionally, a similar positive association was found between online tax payment and tax revenue collection evidenced by a correlation coefficient (r) of 0.992, and a p-value of 0.000, suggesting that a higher involvement of online tax payment

platforms correlates with elevated tax revenue collection with this correlation also being significant at the 5% threshold.

Moreover, the application of artificial intelligence with positively correlated with tax revenue collection demonstrated by a correlation coefficient (r) of 0.963 and a p-value of 0.000, indicating that an increase in the application of artificial intelligence is associated with higher performance in tax practices, a relationship that is significant at the 5% level.

4.5 Regression Analysis and Test of Hypotheses

To fulfill the objectives of the present study, regression analysis was employed to examine the research hypotheses. These hypotheses were assessed under the criterion of an Alpha significance level set at 0.05, adhering to the decision rule that if the computed significance level is less than 0.05, the null hypothesis is to be rejected, and if it is greater than 0.05, the null hypothesis is accepted.

H₀: Null Hypothesis

H₁: Alternative Hypothesis

Table 4.7a Model Summary of digital taxation on revenue collection

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df 1	df 2	Sig. F Change	
1	.997	.993	.993	.42058	.993	3377.396	.925	95	.000	

a. Predictors: (Constant), EFS, OTP, AIN

b. Dependent Variable: TRC

Source: SPSS V22

The table presents the summary of the regression analysis, illustrating the model's efficacy in explaining the variance in the dependent variable, tax revenue collection through independent variables such as e-filing tax systems, online tax payment platforms, and artificial intelligence. An R-squared value of 0.993 signifies that the model accounts for 99.3% of the fluctuations in tax revenue collection. It indicates an exceptionally strong explanatory relationship between the independent and dependent variables, suggesting that the model is highly effective at capturing the variability in the data. This high level of explanation suggests that the model has been

meticulously and accurately constructed, making its predictions reliable for the formulation of policies.

Table 4.7b Multiple Regression Output of digital taxation and tax revenue collection

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error				Beta	Lower Bound	Upper Bound	Tolerance
(Constant)	1.420	.301		4.714	.000	.822	2.018		
EFS	-8.83	.058	.000	-.002	.999	.	.	.374	2.673
OTP	.308	.075	.319	4.092	.000	.159	.458	.378	2.642
AIN	-.107	.032	-.126	-3.368	.001	-.170	-.044	.435	2.300
									2.861

a. Dependent Variable: TAP

Source: SPSS V22

Hypothesis One

H₀: E-filing tax systems does not have a significant impact on tax revenue collection.

The findings presented in Table 4.7b indicate an absence of a statistically significant relationship between E-filing systems and consequently, the researcher posits that the null hypothesis is to be accepted while the alternative hypothesis is dismissed. This conclusion is drawn on the basis of the p-value, which at .999 exceeds the threshold of 0.05, coupled with a T-statistic of -.002 which falls below the critical value of 2 ($p\text{-value} = .999 > 0.05$ & $T\text{-statistic} = -.002 < 2$).

Hypothesis Two

H₀: Online tax payment platforms does not have a significant impact on tax revenue collection

The findings presented in Table 4.7b elucidate a notable correlation between online tax payment platforms and tax revenue collection. Based on the statistical evidence, where the p-value is recorded at .016 significantly lower than the threshold of 0.05 ($p = .016 < 0.05$), coupled with a T-statistic of 4.092, which surpasses the critical value of 2, the study leads to the rejection of the null hypothesis in favor of the alternative. This underscores the pivotal role online tax payment platforms plays in enhancing tax revenue collection

Hypothesis Three

H₀: Artificial intelligence does not significantly influence tax revenue collection

The findings presented in Table 4.7b indicate a noteworthy correlation between artificial intelligence and tax revenue collection. Based on this evidence, the null hypothesis is refuted in favor of the alternative hypothesis, given that the observed p-value of .001 is below the threshold

of 0.05 ($p = .001 < 0.05$, $T = -3.368$). This statistical analysis underscores the positive impact of artificial intelligence in the collection of tax revenue.

4.6 Discussion of Findings

The findings elucidate a discernible correlation between digital taxation and revenue collection. Ali et al., (2023) opined that digital technologies have the potential to strengthen tax administration and enhance domestic revenue mobilization; such mobilization has been a long-standing challenge (particularly in developing countries). Amaglobeli et al, (2023) in the same vein added that the adoption of digital taxation to enhance the effectiveness of tax collection, have also introduced new challenges .

The study delineates a note worthy disconnection between E-filing systems and tax revenue collection. Ofurum et al., (2018) results found that the introduction of E-filing tax system has not significantly impacted tax revenue in Nigeria Conversely, Ibrahim, Lamidi and Alias (2017), found a direct link between e-filing tax systems and tax revenue collection. This is further corroborated by Allahverd, et al., (2017) whose empirical results shows a significant impact of E-tax filling on revenue even as it optimise the cost of tax collection. Monica, Makokha & Namusonge (2017) reported that most tax payers strongly agreed that they were able to fully access and operate the electronic tax system.

Also, Olurankinse and Oladeji (2018) reported that online tax payment platform will improve tax payer's accessibility. Muturi and Kiarie (2015) provided a nuanced perspective, suggesting that online tax system does affect tax compliance level among small taxpayers. This is somewhat aligned with Okiro (2015) who reported that there is a significant increase after the adoption of electronic payment system in revenue collection. In a contrary view, The findings of Ofurum, et al., (2018) revealed that the implementation of electronic taxation has not improved tax revenue, federally collected revenue and tax-to GDP ratio in Nigeria.

Lastly, regarding artificial intelligence the study affirms its significant relationship with tax revenue collection paralleling Smith et al., (2020) in their findings revealed that AI enhance the level of tax productivity and administration as well as the overall tax compliance. Johnson and Lee, (2019) expanded the conversation by positing that the integration of AI in tax practices brings forth challenges related to data privacy, security, and ethical considerations. However its implementation has enhanced smooth tax revenue collection.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This chapter encompassed the summary of findings, conclusion and recommendations of this study. It is a section which pointed out the major discovery of the study, suggested possible action to be identified and perceived potential problems and where the conclusion is drawn from.

5.2 Summary of Findings

This study investigated the effect of digital taxation on tax practices in Benin City, Edo State. Data were primarily sourced through the online administration of questionnaires of which 100 was retrieved and used for the analysis. The descriptive (frequency, mean and percentage) and inferential statistics (regression) were adopted for the study's analysis. Specifically, the regression analysis revealed the following:

- a). The result indicates that there is no significant relationship between E-filing tax systems and tax revenue collection.

- b) The study found that there is a significant relationship between online tax payment and tax revenue collection.

c). Finally, the regression analysis revealed that there is a significant relationship between artificial intelligence and tax revenue collection.

5.3 Conclusion

This study aimed at understanding the impact of digital taxation on tax revenue collection offering valuable insights into analyzing responses from 100 participants, the research utilized both descriptive and inferential statistical tools, in arriving at the findings. It was evident that factors such as e-filing systems, online tax payment, and artificial intelligence significantly determine the effectiveness and efficiency of tax revenue collection.

In conclusion, the integration of digital taxation for tax revenue collection has significantly improved efficiency, accuracy, and compliance. From automated data collection and analysis to enhanced security measures, digital tools have revolutionized tax processes, benefiting both tax authorities and taxpayers alike. However, further monitoring and analysis is necessary to address evolving cybersecurity threats and ensure equitable implementation across different socioeconomic groups.

5.4 Recommendations

From the research analysis and conclusions above, the following recommendations were made:

a). Firstly, the significant relationship between E-filing systems and tax revenue collection highlights the need for government, organizations to enlighten tax payers on the use of all

electronic services and electronic platforms. Also, for an effective electronic tax system, security measures should be implemented in e-filing systems to protect taxpayer data and prevent fraud. Also, Service providers should focus on training their personnel to handle inquiries, complaints, and feedback promptly and effectively.

b). Secondly, the correlation between online tax payment and tax revenue collection underscores its importance. The electronic tax system is expected to promote efficiency, accountability, compliance, increase revenue and curb leakages in the Nigeria tax system. However, this objective has not been completely actualized given to the challenges of poor implementation and lack of automated electronic tax system. There's a need to explore the development and adoption of mobile apps for tax payment, examining their effectiveness in facilitating convenient and secure payments this will as well enable transparency of the tax system, ensure that defaulters are easily punished and also simplify the means of paying tax.

c). Lastly, the link between artificial intelligence on tax revenue collection emphasizes the need for an urgent review and prospective approach to the benefits it underscores for a modern tax system and operation. All stakeholders should explore how automation and artificial intelligence is transforming tax practices, including the use of AI in tax preparation, auditing, and compliance. An enlightenment on how artificial intelligence and machine learning algorithms are being used in tax planning, compliance automation, and fraud detection would suffice.

5.5 Contribution and Implication of the Study

This study provides an indepth understanding on the impacts of digital taxation on tax revenue collection. By utilizing a comprehensive data set garnered from 100 respondents, the analysis sheds light on the pivotal roles that e-filing tax systems, online tax payment platforms, and artificial intelligence play in fostering an effective tax practices. These findings underscore the imperative for government, organizations to prioritize operational efficiencies by applying digital tax technologies that would aid tax compliance, tax revenue collection and practices. It will inform policy decisions, highlight areas requiring further digital infrastructure investment, and help in designing strategies to enhance taxpayer engagement and compliance. By understanding the efficiencies and challenges introduced by digital technologies, policy makers can tailor regulatory frameworks that foster an environment conducive to voluntary compliance and increased revenue collection.

The study highlights the user-friendliness of digital tax platforms, potentially increasing their adoption among taxpayers. This can lead to a more positive taxpayer experience, reducing the perceived burden of tax compliance and fostering a culture of timely and accurate tax submissions.

5.6 Suggestions for Further Study

Building on the insights gleaned from the study on the impact of digital taxation on tax revenue collection, a subsequent research endeavor could explore the underlying factors like tax administration, tax laws, tax auditing and tax software solutions and how they contribute to tax revenue collection and the use of digital platforms.

This future study could adopt a mixed-methods approach, integrating both quantitative and qualitative methodologies to gain a deeper understanding of digital taxation and tax payer's compliance.

The scope of the research could be expanded to include comparative analyses across different cities or regions to identify cultural or operational variances that might influence these relationships.

Objectively, the study would aim to examine the policy implications of the increasing use of digital taxation on tax revenue collection. Issues such as data privacy, cybersecurity, and regulatory compliance should be considered. By employing a comprehensive framework that includes interviews, focus groups, and advanced statistical analyses, the research could offer robust recommendations for enhancing a wider perspective on the impact of digital taxation on tax revenue collection.

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APPENDIX

Department of Accounting,
Faculty of Management Sciences
The University of Benin,
Benin City,
Edo State.
19th, April 2024

Dear Sir/Madam,

REQUEST FOR YOUR COOPERATION IN COMPLETING THIS QUESTIONNAIRE

I am an undergraduate student of the above-named Institution and as part of the requirements of the academic program for the award of a B.Sc. degree in Accounting. I am conducting a research titled "Digital Taxation and tax revenue collection in Nigeria". You have been selected as part of the sample for this study.

I wish to appeal to you to kindly spare a few minutes to complete this questionnaire to the best of your knowledge. You are not required to disclose your identity. I also wish to assure you that your answers will be treated in strict confidence and only for academic purposes.

Thanks for your co-operation.

Yours faithfully,

Eguavoen Henrietta odion

**QUESTIONNAIRE
SECTION A**

INSTRUCTION: Please tick appropriately in the box/column as []

SECTION A: Personal Data

1. Sex: Male [] Female []
2. Age: 0 – 25 [], 26 – 30 [], 31 – 40 [], 41 – 50 [], 51 and above []
3. Educational Qualification: ND/NCE [], HND/B.Sc. [], MBA/M.Sc [], Others []
4. Work Experience: 0-5yrs [], 6-10yrs [], 11-15yrs [], 16-20yrs [], 21yrs and above []

SECTION B

Key:

- SA = Strongly Agreed
 A = Agreed
 U = Undecided
 D = Disagreed
 SD = Strongly Disagree

S/N	Items	SA 5	A 4	U 3	D 2	SD 1
	Effects Of Digital Taxation on Tax Revenue Collection					
1.	The ease and convenience observed in e-tax (electronic tax) encourages high compliance from taxpayers.					
2.	Digital technologies have enhanced the effectiveness of tax collection.					
3.	Digital technologies have improved the accuracy of tax calculations.					
4.	Digital technologies have positively impacted					

	efforts to detect and prevent tax evasion.					
5.	There are few challenges encountered in adopting digital taxation					
	Impact of E- filing Systems on Tax Revenue Collection.					
6.	The use of E-filing systems has increased the accuracy of tax submissions.					
7.	E- -filing will help to improve tax compliance and tax evasion problems; thereby help the tax administrators to raise sufficient funds for the government					
8.	E-filing systems have enhanced accessibility and convenience for taxpayers					
9.	E-filing systems have improved the speed of tax processing and refunds.					
10.	The security measures implemented in E-filing systems are realiable					
	Effects of Online Tax Payment Platforms on Tax Revenue Collection					
11.	The use of online tax payment platforms has increased the timeliness of tax payments					
12.	Automated electronic tax payment system enables transparency of the tax system in a country.					
13.	Online tax payment platforms have improved the accuracy of tax payments.					
14.	Using online platforms has reduced the administrative burden associated with tax payments.					
15.	The security measures implemented in online tax payment platforms are effective.					
	The Role of Artificial Intelligence (AI) on Tax Revenue Collection					
16.	The use of AI has enhanced the accuracy of tax predictions and risk assessments.					
17.	The implementation of AI has led to better fraud					

	detection and prevention in tax processes.					
18..	Artificial intelligence has (AI) influenced the automation of complex tax-related tasks					
19.	AI has positively influenced decision-making processes in tax planning and compliance.					
20.	AI has contributed to the automation of routine and repetitive tasks in tax practices.					