



Effect of Digitalization on Tax Revenue Management in Nigeria

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Abstract

This study examined the effect of digitalization on tax revenue management in Nigeria, with specific focus on taxpayer digital registration systems, ICT infrastructure readiness, and digital capacity of tax authorities. The study adopted a cross-sectional research design, and data were collected from 261 tax officials drawn from the Nigeria Revenue Service (NRS), Federal Capital Territory Internal Revenue Service (FCT-IRS), and selected State Internal Revenue Services within the North Central geopolitical zone of Nigeria. A structured questionnaire using a five-point Likert scale was used as the research instrument. Data were analyzed using Structural Equation Modeling (SEM) with SmartPLS. The findings revealed that all dimensions of digitalization have a positive and significant effect on tax revenue management in Nigeria. The study concludes that digitalization plays a critical role in strengthening tax revenue management in Nigeria. It recommends that government and tax authorities should invest in ICT infrastructure, enhance the digital skills of tax officials, and improve taxpayer digital registration systems to further strengthen revenue generation performance.

Keywords: Digitalization, Tax Revenue Management, ICT Infrastructure, Taxpayer Registration, Digital Capacity, Nigeria.

Introduction

Tax revenue plays a central role in the economic development and fiscal sustainability of every nation. It serves as a major source of government income used for financing public expenditure such as infrastructure development, healthcare, education, security, and social welfare programs. In developing economies like Nigeria, the need for efficient tax revenue management has become more critical due to declining oil revenues, rising public debt, and increasing demand for public services (Arowoshegbe, Uniamikogbo, & Atu, 2017; Danjuma & Ibrahim, 2020; Ayodele & Akinola, 2022).

In recent years, many governments have embraced digital transformation as a strategic tool for improving public sector efficiency, transparency, and accountability. Digitalization in tax administration refers to the use of modern information and communication technologies (ICTs) to automate and improve tax-related processes such as taxpayer registration, tax filing, payment systems, compliance monitoring, and revenue reporting (Verhoef et al., 2021; Bird & Zolt, 2020). This transformation has fundamentally changed how tax authorities operate by reducing manual processes, minimizing human interference, and improving data accuracy.

Globally, digital tax systems have been widely adopted to strengthen revenue mobilization and reduce tax evasion. Advanced economies and emerging markets have integrated technologies such as



electronic tax filing systems (e-filing), electronic payment platforms (e-payment), integrated tax management systems, artificial intelligence, and big data analytics into their tax administration frameworks (Chang et al., 2020; Belahouaoui & Attak, 2024). These innovations have significantly improved tax compliance, reduced administrative costs, and expanded the tax base (Bird & Zolt, 2008; Dhaliwal et al., 2023)

Digitalization in tax administration, such as taxpayer digital registration systems, ICT infrastructure readiness, and the digital capacity of tax authorities, has the potential to significantly influence tax revenue management. Taxpayer digital registration enhances the accuracy and completeness of taxpayer databases, thereby expanding the tax base and improving compliance monitoring (Bird & Zolt, 2020; Ewa et al. 2020). Similarly, ICT infrastructure readiness such as reliable internet systems, integrated databases, and secure digital platforms facilitates efficient tax filing, payment processing, and real-time revenue tracking, which reduces leakages and administrative bottlenecks (Verhoef et al., 2021; Eze & Ndubuisi, 2023).

Furthermore, the digital capacity of tax authorities, which includes technical skills, data analytics capabilities, and adoption of modern tax technologies, plays a critical role in determining how effectively digital tax systems translate into improved revenue outcomes. Tax administrations with higher digital competence are better able to detect tax evasion, improve enforcement mechanisms, and enhance overall revenue performance (Awasthi & Engelschalk, 2021; Belahouaoui & Attak, 2024). Empirical evidence also suggests that countries with stronger digital tax systems tend to record higher tax compliance and improved revenue mobilization efficiency (Adejuwon & Olasunkanmi, 2023; Agyei-Ababio et al. 2023).

Despite increasing scholarly attention on the relationship between digitalization and tax administration, there remains a clear knowledge gap in the Nigerian context. Existing studies have generally established that digital tax systems improve revenue collection efficiency, enhance compliance, and reduce tax evasion (Arowoshegbe, Uniamikogbo, & Atu, 2017; Anioke, 2024; Akinyosoye et al., 2025). However, much of the available literature tends to focus on broad digital transformation outcomes without adequately isolating specific dimensions of digitalization such as taxpayer digital registration systems, ICT infrastructure readiness, and the digital capacity of tax authorities.

Furthermore, several studies on Nigeria and similar developing economies emphasize implementation challenges such as poor digital literacy, weak infrastructure, and resistance to technological change (Aguolu & Ezeani, 2020; Awasthi & Engelschalk, 2021). While these studies highlight important constraints, they do not sufficiently examine how these components individually or collectively influence tax revenue management outcomes, including efficiency, accountability, and revenue growth.

In addition, most empirical works (Adejuwon & Olasunkanmi, 2023; Ashafoke & Obaretin, 2023) tend to aggregate digitalization into a single construct, thereby limiting deeper understanding of which specific digital tools or capacities contribute most significantly to improved tax performance. There is also limited empirical evidence that integrates both institutional and technological perspectives to explain how digital readiness of tax authorities translates into effective revenue management.

More importantly, few studies have comprehensively examined the Nigerian tax system in relation to the combined effect of digital infrastructure, taxpayer digital integration, and institutional digital capacity on tax revenue management. This creates a gap in both theory and practice, particularly in understanding how digital transformation strategies can be optimized to enhance sustainable revenue generation in developing economies like Nigeria. Therefore, this study addresses this gap by



empirically examining the effect of key digitalization components taxpayer digital registration, ICT infrastructure readiness, and digital capacity of tax authorities on tax revenue management in Nigeria.

Literature Review

Conceptual Framework

Tax revenue management

Tax revenue management refers to the systematic process through which government tax authorities plan, assess, collect, monitor, account for, and control tax revenues to ensure optimal fiscal performance and sustainable public finance. It encompasses all administrative and operational activities aimed at ensuring that taxes are properly administered, efficiently collected, and accurately reported for national development purposes.

According to Arowoshegbe, Uniamikogbo, and Atu (2017), tax revenue management is a critical component of public finance because it determines the ability of government to mobilize internal revenue for infrastructure, social services, and economic development. It involves not only the collection of taxes but also the enforcement of compliance, reduction of leakages, and improvement of accountability in tax administration systems.

In a broader sense, tax revenue management includes tax assessment, where taxable income or activities are identified; tax collection, where due taxes are paid by individuals and organizations; and tax administration control, which involves auditing, monitoring, and enforcement mechanisms to reduce tax evasion and avoidance. Effective tax revenue management ensures that government can achieve fiscal stability and reduce dependence on external borrowing or volatile revenue sources such as oil.

In developing economies such as Nigeria, tax revenue management faces challenges such as weak institutional capacity, large informal sectors, corruption, and inefficient administrative systems. However, reforms driven by digital technologies have significantly reshaped tax revenue management processes. The adoption of electronic tax systems by the Federal Inland Revenue Service has improved transparency, reduced human interference, and enhanced revenue tracking and accountability (Ewa, Omodero, & Iorember, 2020; Eze & Ndubuisi, 2023).

Furthermore, modern tax revenue management is increasingly data-driven, relying on digital platforms, integrated databases, and real-time analytics to enhance decision-making and improve compliance enforcement. According to Bird and Zolt (2020), digital tax systems strengthen revenue administration by improving taxpayer identification, reducing leakage, and enhancing enforcement efficiency.

Digitalization

Digitalization refers to the process of integrating digital technologies into organizational systems, processes, and services to improve efficiency, effectiveness, and value creation. It goes beyond the mere use of computers by involving the transformation of traditional manual or paper-based processes into automated, data-driven, and electronically managed systems.

In public sector administration, digitalization involves the adoption of information and communication technologies (ICTs) to enhance service delivery, decision-making, transparency, and accountability. According to Verhoef et al. (2021), digitalization represents a fundamental shift in how organizations operate, as it enables real-time data processing, automation of routine tasks, and improved coordination of activities through digital platforms.



In the context of tax administration, digitalization includes systems such as electronic tax filing (e-filing), electronic payment platforms (e-payment), digital taxpayer registration systems, integrated tax databases, and the use of advanced technologies such as artificial intelligence and data analytics for monitoring and enforcement. Bird and Zolt (2020) argue that digitalization in tax systems enhances administrative efficiency by reducing human error, minimizing corruption opportunities, and improving taxpayer compliance.

In developing countries such as Nigeria, digitalization has become a key reform strategy for strengthening public financial management and improving internally generated revenue. Institutions such as the Federal Inland Revenue Service have implemented digital platforms like TaxPro Max and Integrated Tax Administration Systems to streamline tax processes and improve revenue collection efficiency (Ewa, Omodero, & Iorember, 2020; Deshi, Ibilibor, & Paul, 2025).

However, the effectiveness of digitalization depends on factors such as ICT infrastructure readiness, digital literacy, institutional capacity, and policy support. Awasthi and Engelschalk (2021) emphasize that digital gaps in tax administrations can limit the full benefits of digital transformation, particularly in developing economies.

Taxpayer digital registration systems

Taxpayer digital registration systems refer to the use of electronic platforms and digital databases for the identification, enrollment, and documentation of individuals and organizations liable to pay tax. It involves the automated collection and storage of taxpayer information, assignment of unique taxpayer identification numbers, and integration of taxpayer records into a centralized database managed by tax authorities.

Unlike traditional manual registration processes, digital registration systems enable tax authorities to capture accurate, real-time, and verifiable taxpayer data. This reduces duplication, minimizes errors, and enhances the ability of tax agencies to track taxable entities across different sectors of the economy. According to Bird and Zolt (2020), digital taxpayer registration is a foundational component of modern tax administration because it strengthens the tax base and improves compliance monitoring.

In the context of developing economies such as Nigeria, taxpayer digital registration has become an important reform strategy aimed at expanding the formal tax net and improving internally generated revenue. The Federal Inland Revenue Service and State Internal Revenue Services have implemented electronic taxpayer identification systems and online registration platforms to simplify the registration process and improve data accuracy (Ewa, Omodero, & Iorember, 2020; Anioke, 2024).

Taxpayer digital registration systems also enhance tax revenue management by improving transparency and reducing opportunities for tax evasion and underreporting. By linking taxpayer records to national identification systems, bank accounts, and business registration databases, tax authorities can better monitor economic activities and ensure compliance. This integration strengthens enforcement mechanisms and improves revenue collection efficiency (Akinyosoye et al., 2025).



ICT infrastructure readiness

ICT infrastructure readiness refers to the availability, adequacy, reliability, and functionality of the technological systems required to support effective digital operations within an organization or public institution. In tax administration, it represents the extent to which hardware, software, internet connectivity, databases, servers, cybersecurity systems, and integrated platforms are sufficiently developed to support digital tax processes such as registration, filing, payment, monitoring, and enforcement.

ICT infrastructure readiness is a critical foundation for successful digitalization because even the most advanced tax technologies cannot function effectively without stable and accessible infrastructure. According to Verhoef et al. (2021), digital transformation in public systems depends heavily on robust technological infrastructure that enables seamless data flow, real-time processing, and system integration across departments.

In tax administration systems, ICT infrastructure readiness ensures that electronic tax platforms operate efficiently without frequent downtime, data loss, or security breaches. Bird and Zolt (2020) emphasize that strong digital infrastructure enhances tax administration capacity by improving data accuracy, reducing administrative delays, and strengthening compliance monitoring systems.

In developing countries such as Nigeria, ICT infrastructure readiness remains a key determinant of the success of tax digitalization reforms. Institutions such as the Federal Inland Revenue Service rely on systems like TaxPro Max and Integrated Tax Administration Systems, which require stable internet connectivity, secure databases, and interoperable platforms to function effectively (Ewa, Omodero, & Iorember, 2020; Aguolu & Ezeani, 2020).

Digital capacity of tax authorities

Digital capacity of tax authorities refers to the ability of tax institutions and their personnel to effectively adopt, operate, and manage digital technologies in the administration of tax processes. It encompasses the technical skills of staff, institutional knowledge, data analytics capability, ICT competence, and the overall organizational readiness required to implement and sustain digital tax systems.

In modern tax administration, digital capacity is a key determinant of how well digital tools such as electronic tax filing systems, automated payment platforms, integrated taxpayer databases, and real-time monitoring systems are utilized. According to Verhoef et al. (2021), digital transformation is not driven by technology alone but by the capability of organizations to integrate technology into their operational processes and decision-making structures.

Bird and Zolt (2020) argue that tax administrations with stronger digital capacity are more effective in improving compliance, detecting tax evasion, and expanding the tax base. This is because digital competence enables tax authorities to analyze large volumes of taxpayer data, identify irregularities, and implement risk-based audit systems.

In developing countries such as Nigeria, the digital capacity of tax authorities is particularly important due to ongoing reforms aimed at modernizing tax systems. Institutions such as the Federal Inland Revenue Service have introduced platforms like TaxPro Max and Integrated Tax Administration



Systems, which require skilled personnel and strong institutional capacity to operate effectively (Ewa et al , 2020; Deshi et al 2025).

Empirical Review

Adejuwon and Olasunkanmi (2023) examined tax digitalization and revenue collection problems in Nigeria. Their study found that although digital tax systems have improved revenue processes, challenges such as poor infrastructure, system inefficiencies, and low compliance still limit optimal revenue performance. The study concludes that effective implementation of digital tax tools is essential for improving revenue collection in Nigeria.

Aguolu and Ezeani (2020) investigated digital transformation challenges in Nigerian tax administration. The study revealed that inadequate ICT infrastructure, weak institutional capacity, and resistance to change significantly hinder the effectiveness of digital tax reforms. The authors emphasized the need for improved infrastructure and capacity building to enhance tax administration outcomes.

Similarly, Akinyosoye et al. (2025) studied tax digitalisation and revenue generation systems in Nigeria and found a positive relationship between digital tax platforms and revenue performance. The study showed that automation of tax processes improves efficiency, reduces leakages, and enhances tax compliance.

Anioke (2024) focusing on Lagos State, found that digital tax administration significantly improved revenue generation between 2008 and 2018. The study concluded that electronic tax systems enhanced transparency and reduced tax evasion, leading to increased internally generated revenue.

Ashafoke and Obaretin (2023) examined the effect of digital channels on revenue generation in Nigeria and found that digital tax channels significantly improve revenue collection efficiency. Their findings support the argument that digital platforms reduce administrative bottlenecks and improve taxpayer convenience.

Arowoshegbe, et al. (2017) earlier established that efficient tax administration systems significantly influence revenue generation in selected Nigerian states. Although their study was not fully digital-focused, it provides a baseline for understanding the importance of administrative efficiency in revenue performance.

Audu and Ishola (2021) examined the role of the digital economy in tax administration in Nigeria and found that digitalization improves tax compliance and broadens the tax base. However, the study also identified infrastructural and institutional limitations as major constraints.

Ewa et al. (2020) provided empirical evidence that digital capacity positively influences tax revenue performance in developing countries, including Nigeria. The study found that countries with higher digital readiness achieve better revenue outcomes due to improved data management and compliance monitoring.

Eze and Ndubuisi (2023) focused on optimizing tax administration systems and concluded that digital tax systems significantly reduce revenue leakages and improve administrative efficiency. Their study emphasized the importance of integrated systems for effective tax control.

Bassey and Eni (2020) highlighted that policy inconsistency and weak institutional capacity among tax officers negatively affect revenue generation, suggesting that digital reforms must be supported by stable governance structures.



Awasthi and Engelschalk (2021) examined digital literacy gaps in tax administrations and found that lack of digital skills among tax officials significantly reduces the effectiveness of tax digitalization, particularly in developing economies.

Bird and Zolt (2020) provided a broader perspective, arguing that digital capacity is central to modern tax administration, as it enhances compliance, improves enforcement, and increases revenue efficiency.

Belahouaoui and Attak (2024) explored digital taxation and artificial intelligence in tax administration and found that advanced digital tools significantly improve tax compliance behavior and administrative efficiency.

Deshi et al. (2025) examined digital tax reforms in the Federal Inland Revenue Service (FIRS) and found that automation of tax processes improves administrative efficiency and enhances revenue generation.

Theoretical Framework

This study is anchored on relevant theories that explain the relationship between digitalization and tax revenue management. The key theories adopted are the Technology Acceptance Model (TAM) and the Institutional Theory.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1989), explains how users come to accept and use technology. The model posits that two main factors determine technology adoption: perceived usefulness and perceived ease of use. Perceived usefulness refers to the degree to which a person believes that using a system will enhance job performance, while perceived ease of use refers to the degree to which a person believes that using the system will be free of effort.

In the context of tax administration, TAM explains the behaviour of both taxpayers and tax officials toward digital tax systems such as electronic filing, digital registration, and online payment platforms. If taxpayers perceive digital tax systems as useful and easy to use, they are more likely to adopt them, thereby improving compliance and revenue generation.

Empirical support for TAM in tax studies is provided by Azmi and Kamarulzaman (2010), who found that ease of use and perceived benefits significantly influence adoption of e-filing systems. Similarly, Agustina et al. (2024) confirmed that digital tax socialization and usability improve taxpayer compliance through motivation.

Thus, TAM is relevant to this study because it explains how digitalization influences tax revenue management through user adoption and behavioural compliance.

Institutional Theory

Institutional Theory, developed by DiMaggio and Powell (1983), explains how organizational structures, norms, rules, and external pressures influence the behavior and practices of institutions. The theory argues that organizations tend to adopt similar practices due to coercive, mimetic, and normative pressures.

In tax administration, Institutional Theory explains how government policies, regulatory frameworks, and global best practices influence the adoption of digital tax systems. Tax authorities such as the Federal Inland Revenue Service adopt digitalization reforms due to government mandates, international standards, and pressure to improve revenue performance.



Agyei-Ababio, Ansong, and Assa-Agyei (2023) support this view by showing that institutional pressures significantly drive revenue mobilization digitalization in emerging economies. Similarly, Ayodele and Akinola (2022) emphasize that strong institutional frameworks are essential for sustainable tax revenue management.

Institutional Theory is therefore relevant to this study because it explains how external environmental factors and institutional structures shape the implementation and effectiveness of digital tax systems in improving revenue management.

Methodology

This study adopted a cross-sectional research design. The choice of a cross-sectional design is considered appropriate for this study because it allows the researcher to capture respondents' perceptions and experiences regarding digitalization and tax revenue management in Nigeria at a specific period.

The target population for this study consists of 750 tax officials drawn from the Federal Inland Revenue Service (FIRS), the Federal Capital Territory Internal Revenue Service (FCT-IRS), and the State Internal Revenue Services of Nasarawa State, Niger State, and Kogi State within the North Central geopolitical zone of Nigeria. These states were selected because they represent a mix of urban and semi-urban tax environments and have increasingly adopted digital tax administration systems in their revenue collection processes.

The sample size for this study was determined using the Taro Yamane (1967) formula, which provides a simplified method for calculating sample sizes from a finite population.

The formula is expressed as:

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

Where:

n = Sample size

N = Population size

e = Level of precision (sampling error)

1= Constant

Given that:

$$N = 750$$

$$e = 0.05(5\% \text{ level of significance})$$

Substituting into the formula:

$$n = \frac{750}{1 + 750(0.05)^2}$$

$$n = \frac{750}{1 + 750(0.0025)}$$



$$n = \frac{750}{1 + 1.875}$$

$$n = \frac{750}{2.875}$$

$$n = 260.87$$

$$n \approx 261$$

Table 1 Proportionate Allocation of Sample Size

Tax Authority	Population (N)	Sample Size (n)
FIRS (North Central Offices)	250	87
FCT-IRS	150	52
Kogi State Internal Revenue Service	120	42
Niger State Internal Revenue Service	120	42
Nasarawa State Internal Revenue Service	110	38
Total	750	261

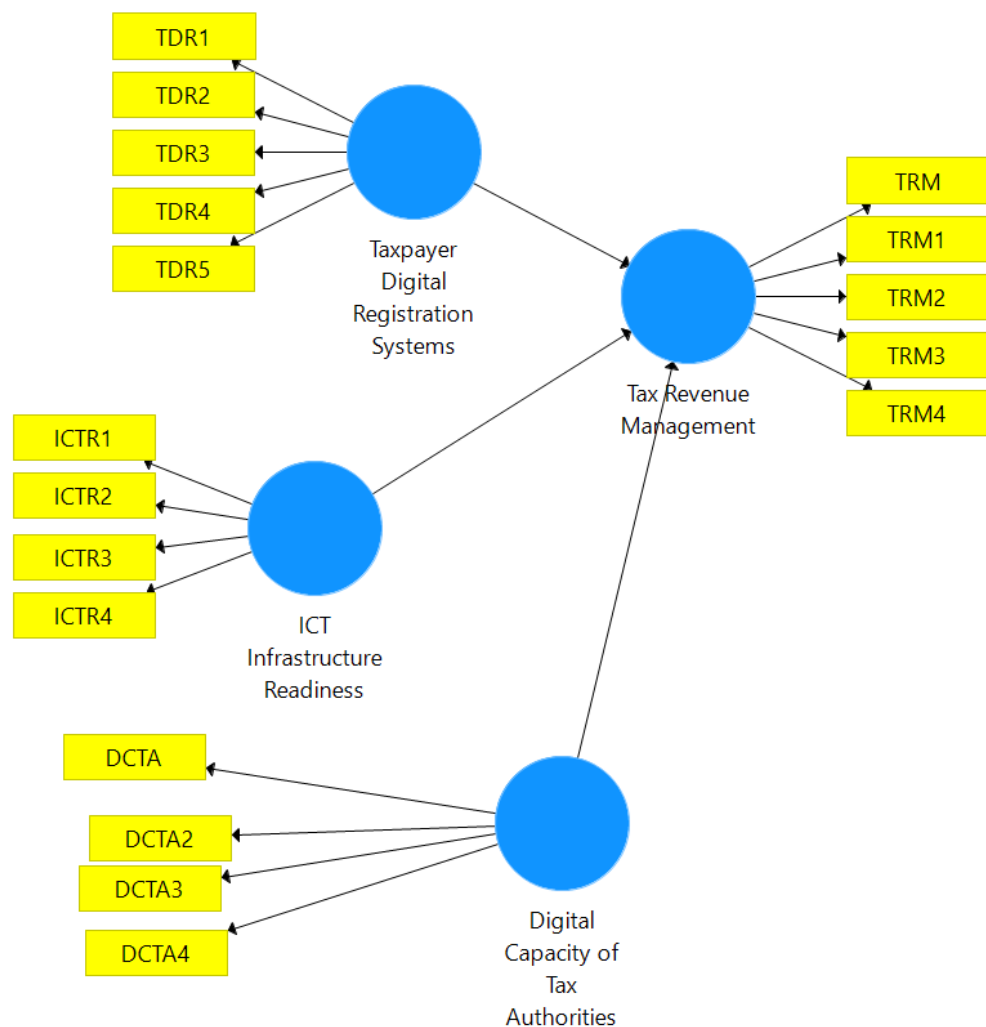
This study utilized primary data, which were collected through the administration of a structured questionnaire. The questionnaire was structured using a five-point Likert scale, ranging from Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1). This scale enabled respondents to express the extent of their agreement or disagreement with statements relating to the study variables.

Data were collected through both online and physical (paper-based) questionnaire administration.

The data collected for this study were analyzed using Structural Equation Modeling (SEM). The technique is particularly suitable for studies involving multiple independent and dependent variables as well as constructs measured through several indicators. The choice of SEM is justified by its ability to assess both the measurement model and the structural model. The measurement model evaluates the validity and reliability of the study constructs, while the structural model examines the hypothesized relationships between digitalization dimensions and tax revenue management.

The SEM model for the study is specified as:

$$TRM = \beta_0 + \beta_1 TDR + \beta_2 ICTR + \beta_3 DCTA + \varepsilon$$



Where:

TRM = Tax Revenue Management

TDR = Taxpayer Digital Registration Systems

ICTR = ICT Infrastructure Readiness

DCTA = Digital Capacity of Tax Authorities

β_0 = Constant term

$\beta_1 - \beta_3$ = Regression coefficients

ε = Error term

Result and Discussion

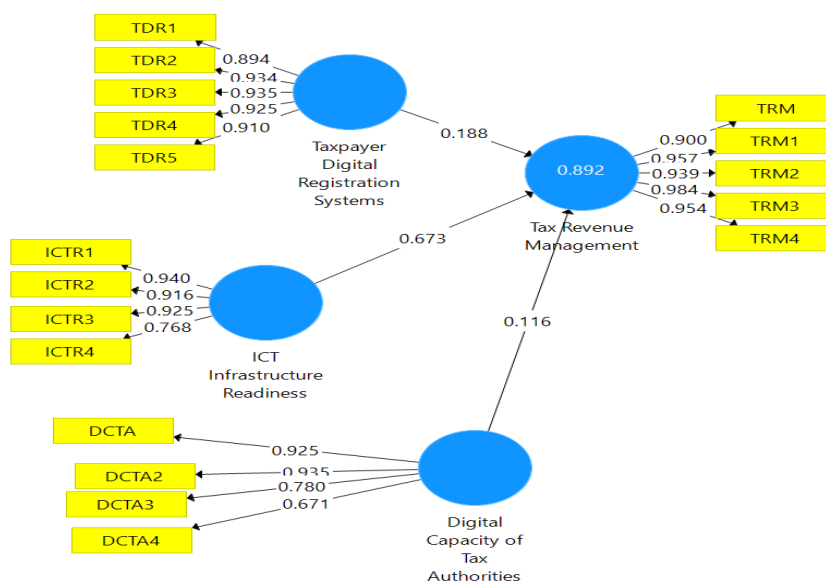


Fig 1

Table 2 Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Digital Capacity of Tax Authorities	0.848	0.867	0.901	0.697
ICT Infrastructure Readiness	0.911	0.933	0.938	0.792
Tax Revenue Management	0.971	0.971	0.978	0.897
Taxpayer Digital Registration Systems	0.955	0.958	0.965	0.846

The results indicate that all constructs satisfy the recommended thresholds for internal consistency reliability and convergent validity.

The Cronbach's Alpha values range from 0.848 for Digital Capacity of Tax Authorities to 0.971 for Tax Revenue Management. Since all values exceed the minimum acceptable threshold of 0.70 recommended by Nunnally and Bernstein (1994), the constructs demonstrate strong internal consistency reliability. Similarly, the rho_A values range from 0.867 to 0.971, all exceeding the recommended benchmark of 0.70, further confirming the reliability of the measurement scales. Composite Reliability (CR) values range between 0.901 and 0.978, which are above the recommended threshold of 0.70 suggested by Hair et al. (2022). This indicates that the indicators consistently measure their respective latent constructs. Regarding convergent validity, the Average Variance Extracted (AVE) values range from 0.697 to 0.897. Since all AVE values exceed the minimum threshold of 0.50 recommended by Fornell and Larcker (1981), the constructs explain more than 50 percent of the variance in their indicators. This confirms that the measurement items adequately converge to measure their intended constructs. Specifically, Tax Revenue Management recorded the highest reliability and validity values (Cronbach's Alpha = 0.971, CR = 0.978, AVE = 0.897), indicating a very strong measurement model. Likewise, Taxpayer Digital Registration Systems demonstrated excellent reliability and convergent validity with a Cronbach's Alpha of 0.955 and AVE of 0.846.

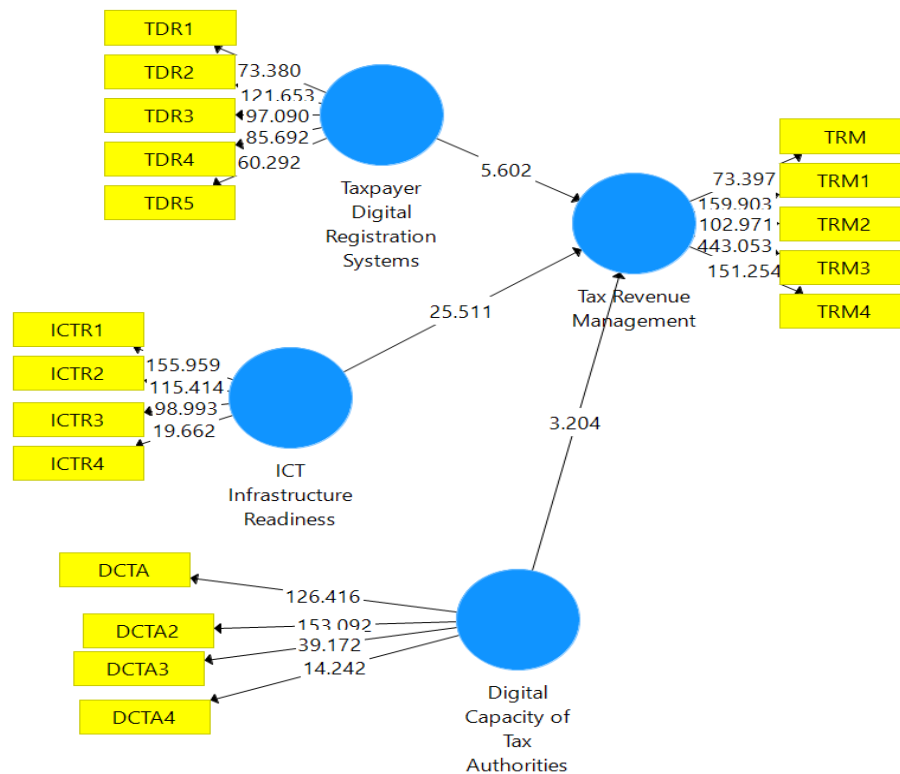


Table 3

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O /STDEV)	P Values
Digital Capacity of Tax Authorities -> Tax Revenue Management	0.116	0.116	0.036	3.204	0.001
ICT Infrastructure Readiness -> Tax Revenue Management	0.673	0.676	0.026	25.511	0.000
Taxpayer Digital Registration Systems -> Tax Revenue Management	0.188	0.184	0.033	5.602	0.000

The results indicate that Digital Capacity of Tax Authorities has a positive and statistically significant effect on Tax Revenue Management ($\beta = 0.116$, $t = 3.204$, $p = 0.001$). The p-value is less than the 0.05 significance level, indicating that improvements in the digital competencies, technical skills, and technological capabilities of tax officials significantly enhance tax revenue management. This suggests that tax authorities with stronger digital capacity are better positioned to implement digital tax systems, monitor compliance, and improve revenue collection efficiency.

The findings further reveal that ICT Infrastructure Readiness exerts a positive and highly significant effect on Tax Revenue Management ($\beta = 0.673$, $t = 25.511$, $p = 0.000$). This variable recorded the highest path



coefficient among all the predictors, indicating that ICT infrastructure readiness is the most influential determinant of tax revenue management in the study. The result implies that the availability of reliable internet connectivity, digital platforms, databases, and technological infrastructure significantly improves tax administration processes and revenue outcomes. Similarly, Taxpayer Digital Registration Systems have a positive and statistically significant effect on Tax Revenue Management ($\beta = 0.188$, $t = 5.602$, $p = 0.000$). The result suggests that effective digital registration systems enhance taxpayer identification, broaden the tax base, reduce duplication of records, and improve compliance monitoring, thereby contributing positively to tax revenue management.

Since the p-values for all the paths are less than 0.05, all the null hypotheses are rejected. This implies that Digital Capacity of Tax Authorities, ICT Infrastructure Readiness, and Taxpayer Digital Registration Systems each have a significant positive effect on Tax Revenue Management in Nigeria. The findings support the argument of Bird and Zolt (2020), Ewa et al. (2020), Akinyosoye et al. (2025), and Deshi et al. (2025) that digitalization enhances tax administration efficiency, improves compliance, reduces leakages, and strengthens revenue mobilization. The results also align with the Technology Acceptance Model and Institutional Theory, which suggest that technological readiness and institutional capability are essential for successful digital transformation and improved organizational performance.

Conclusion and Recommendations

This study examined the effect of digitalization on tax revenue management in Nigeria, focusing on taxpayer digital registration systems, ICT infrastructure readiness, and digital capacity of tax authorities. Based on the empirical findings obtained through Structural Equation Modeling (SEM), the study concludes that digitalization significantly enhances tax revenue management in Nigeria. Specifically, the results revealed that all the dimensions of digitalization considered in the study have a positive and statistically significant effect on tax revenue management. ICT infrastructure readiness was found to be the strongest determinant of tax revenue management, indicating that reliable technological systems, internet connectivity, and integrated digital platforms are critical for effective tax administration. Taxpayer digital registration systems also contribute significantly by improving taxpayer identification, expanding the tax base, and enhancing compliance monitoring. Furthermore, the digital capacity of tax authorities was found to have a significant positive effect on tax revenue management, implying that the skills, competencies, and technological capabilities of tax officials play an important role in the successful implementation of digital tax systems. Based on the findings of this study, the following three recommendations are made:

1. Government and tax authorities should prioritize investment in reliable ICT infrastructure, including stable internet services, secure servers, integrated tax databases, and cybersecurity systems. This will ensure smooth operation of digital tax platforms and improve efficiency in tax revenue management.
2. Continuous training and capacity-building programmes should be implemented for tax officials to improve their digital literacy and technical skills. This will enable effective use of digital tax systems, improve data management, and enhance revenue collection performance.
3. Tax authorities such as the Federal Inland Revenue Service should strengthen digital registration platforms to ensure accurate taxpayer identification, reduce duplication, and expand the tax base, especially by integrating informal sector operators into the tax system.



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Appendix

QUESTIONNAIRE ON DIGITALIZATION AND TAX REVENUE MANAGEMENT IN NIGERIA

SECTION : DIGITALIZATION VARIABLES

A. Taxpayer Digital Registration Systems (TDRS)

Statements	SA (5)	A (4)	N (3)	D (2)	SD (1)
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6. Digital taxpayer registration improves accuracy of taxpayer records. | ☐ | ☐ | ☐ | ☐ | ☐ |
7. Online registration reduces duplication of taxpayer identities. | ☐ | ☐ | ☐ | ☐ | ☐ |
8. Digital registration expands the tax base effectively. | ☐ | ☐ | ☐ | ☐ | ☐ |
9. Taxpayer digital registration improves compliance monitoring. | ☐ | ☐ | ☐ | ☐ | ☐ |

B. ICT Infrastructure Readiness (ICTR)

10. ICT infrastructure in my organization supports effective tax administration. | ☐ | ☐ | ☐ | ☐ | ☐ |
11. Internet connectivity is reliable for digital tax operations. | ☐ | ☐ | ☐ | ☐ | ☐ |
12. Integrated tax databases improve revenue collection efficiency. | ☐ | ☐ | ☐ | ☐ | ☐ |
13. Cybersecurity systems adequately protect tax data. | ☐ | ☐ | ☐ | ☐ | ☐ |

C. Digital Capacity of Tax Authorities (DCTA)

14. Tax officials are adequately trained in digital tax systems. | ☐ | ☐ | ☐ | ☐ | ☐ |
15. Staff possess strong ICT skills for tax administration. | ☐ | ☐ | ☐ | ☐ | ☐ |
16. Data analytics is effectively used in tax administration. | ☐ | ☐ | ☐ | ☐ | ☐ |
17. The organization adapts quickly to new tax technologies. | ☐ | ☐ | ☐ | ☐ | ☐ |

D. Tax Revenue Management (TRM)

18. Digitalization improves tax revenue collection efficiency. | ☐ | ☐ | ☐ | ☐ | ☐ |
19. Tax compliance has improved due to digital tax systems. | ☐ | ☐ | ☐ | ☐ | ☐ |
20. Revenue leakages have reduced due to digital tax platforms. | ☐ | ☐ | ☐ | ☐ | ☐ |
21. Tax revenue generation has increased due to digital systems. | ☐ | ☐ | ☐ | ☐ | ☐ |
22. Tax administration has become more transparent due to digitalization. | ☐ | ☐ | ☐ | ☐ | ☐ |