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**The Impact of Digital Tax Collection and Staff Capacity-Building on Revenue Performance in the Anambra State Internal Revenue Service (AIRS), 2014–2023**

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**ABSTRACT**

*This study examined the impact of digital tax collection and capacity-building programmes on revenue administration in the Anambra State Internal Revenue Service (AIRS) between 2014 and 2023. The study adopted a descriptive survey design and gathered data from all 331 permanent AIRS staff using structured questionnaires. Descriptive statistics and regression analysis were used to analyze the data. The findings showed that digital tax collection has significantly reduced revenue leakages in the state. Most respondents agreed that digital systems improved accuracy, reduced diversion of funds, and enhanced monitoring, while the regression results confirmed a strong and significant relationship between digital tax platforms and reduced leakages. In contrast, the results indicated that capacity-building programmes for AIRS staff did not have a significant effect on their proficiency in handling digital tax systems. Although staff generally believed that training activities were beneficial, the statistical analysis showed a weak and non-significant relationship, suggesting that the current training programmes are not sufficiently practical or effective. The study concludes that digital tax collection has strengthened transparency and revenue protection in Anambra State, while capacity-building efforts require major improvement. It recommends that AIRS continue to upgrade and expand its digital tax infrastructure to further reduce leakages, and redesign training programmes to make them more practical, continuous, and aligned with the skills required for digital tax administration.*

**Keywords:** Digital Tax Collection, Capacity-Building, Revenue Performance, Revenue Leakages, Internal Revenue Service, Tax Administration, Anambra State, AIRS

**INTRODUCTION**

Revenue generation remains the financial backbone of subnational governments, enabling them to meet governance responsibilities, deliver public services, and drive socio-economic development. In Nigeria, state governments rely heavily on internally generated revenue (IGR) to supplement federal allocations, especially in an era of fluctuating oil prices and increasing development demands. However, the efficiency of revenue collection mechanisms has been persistently undermined by challenges such as corruption, manual processes, poor tax administration, and widespread revenue leakages (Nwamgbebu et al., 2019). These challenges have necessitated a shift from traditional manual tax administration to digitally driven systems aimed at improving revenue accountability, transparency, and efficiency. Digital tax collection has emerged as one of the most transformative reforms in revenue administration, addressing long-standing weaknesses in record keeping, taxpayer compliance monitoring, and revenue tracking (Collosa, 2021).

Digital tax systems leverage technology to automate tax processing operations such as assessment, filing, payment, reporting, and enforcement. Studies have shown that technology-driven tax reforms significantly reduce opportunities for human interference and manipulation, thereby limiting leakages and enhancing accuracy in revenue accounting (Odia & Akonoafua, 2022). In many developing contexts, the introduction of digital platforms has improved the speed of tax administration, expanded the

taxpayer database, and strengthened the integrity of revenue transactions (Anumba, 2020). For states like Anambra, where revenue mobilization remains central to development planning, the integration of digital systems into tax operations represents a critical strategy for strengthening fiscal sustainability.

Despite the potential of digital tax collection to improve revenue outcomes, the success of such systems depends largely on the competence, skills, and adaptability of tax administrators. Digital reforms require staff who can effectively operate new technologies, interpret digital records, and manage taxpayer data securely. Capacity-building initiatives—including training, workshops, professional development, and technical support—play a crucial role in preparing revenue staff for these responsibilities (Farao Deloffre et al., 2022). Without adequate human resource development, digital tax systems may remain underutilized or poorly implemented, leading to inefficiencies that undermine their intended benefits. Stated differently, technology alone cannot reform revenue administration; it must be complemented with strong institutional capacity and a skilled workforce (Anugwom & Okeke, 2023).

Within the Anambra State Internal Revenue Service (AIRS), digital tax reforms have expanded significantly since 2014, especially with the introduction of electronic payment platforms, taxpayer identification systems, and automated revenue monitoring tools. These initiatives were targeted at streamlining tax processes, reducing cash handling, and minimizing leakages associated with manual collections. However, empirical evidence on the extent to which these digital systems have improved revenue performance and reduced leakages in Anambra State remains limited. Additionally, while AIRS has implemented various capacity-building programmes for its staff, the actual effectiveness of these initiatives in enhancing digital tax administration has not been adequately studied.

This study therefore investigates the impact of digital tax collection and staff capacity-building on revenue performance in the Anambra State Internal Revenue Service between 2014 and 2023. By examining both the technological and human elements of revenue administration, the study provides a comprehensive understanding of how digital reforms and institutional capacity interact to shape revenue outcomes. The findings will contribute to ongoing discussions on strengthening tax administration and improving IGR performance in Nigerian states.

### **Objectives of the Study**

1. Determine whether digital tax collection has reduced incidences of revenue leakages in Anambra State between 2014 and 2023.
2. Assess the effect of capacity-building programmes provided to AIRS staff for improving their handling of digital tax systems in Anambra State between 2014 and 2023.

### **Research Questions**

- 1 To what extent has digital tax collection reduced incidences of revenue leakages in Anambra State?
- 2 What is the effect of capacity-building programmes provided to AIRS staff on their proficiency in handling digital tax systems?

### **Hypotheses**

1.  $H_0$ : Digital tax collection has not significantly reduced incidences of revenue leakages.
2.  $H_0$ : Capacity-building programmes provided to AIRS staff have no significant effect on their proficiency in handling digital tax systems.

## **Literature Review**

### **Contribution of Digital Tax Collection in Reducing Incidences of Revenue Leakages**

Collosa (2021) stated that digitalization has the potential to significantly reshape the landscape of corruption by limiting opportunities for discretionary decision-making and reducing the ambiguity that often fuels corrupt practices. By introducing automated systems, digital tools reduce the need for human intermediaries, making processes more transparent and less subject to personal influence. This, in turn, curtails the space for arbitrary decisions, where individuals could manipulate or exploit gaps for personal gain. For instance, in public services or tax collection, digital platforms can ensure that transactions are tracked, monitored, and follow clear, consistent procedures. With fewer people involved and more

standardized processes, the chance of demanding bribes or manipulating outcomes diminishes. By making processes more visible and accountable, digitalization shines a light on areas that were previously obscure, reducing the secrecy where corruption often thrives. Moreover, digitalization provides easier access to information, enabling citizens to monitor governmental actions more closely and hold officials accountable. When the rules are clearer and more accessible, it becomes harder for corrupt actors to bend them in their favor. Thus, digitalization not only automates tasks but also fosters a culture of accountability, helping to establish a more equitable and transparent system where corruption has fewer opportunities to take root.

Nwamgbebu, Oketa, Odom, Nwambe, and Nweke–Charles (2019) explain that the introduction of e-taxation in Nigeria is a significant step taken by the government to modernize the tax system. The primary goal of this digital shift is to widen the tax base by bringing more companies and individuals into the tax net, ensuring that previously untapped sources of revenue are captured. By doing so, the government aims not only to increase the overall tax revenue but also to reduce leakages in the system. These leakages, often caused by inefficiencies, loopholes, or corrupt practices, have historically undermined the effectiveness of tax collection. With e-taxation, the process becomes more transparent, streamlined, and less susceptible to manipulation, helping to strengthen the integrity of the Nigerian tax system.

Odia and Akonoafua (2022) examined digital taxation globally and within Nigeria, focusing on the regulations introduced by the Finance Act of 2020. The Act aims to reduce tax leakages by introducing rules for taxing digital transactions, including e-commerce and digital platforms, through measures such as Digital Permanent Establishment Rules, Companies Income Tax (CIT), and Value Added Tax (VAT) on electronic commerce. The paper highlighted that while the Act helps eliminate some tax leakages, it does not fully cover individual digital transactions, leaving room for tax avoidance. Despite Nigeria's entrepreneurial potential, the country has a small footprint in the global digital economy, limiting the impact of digital taxation. The authors concluded that while the Finance Act provides a framework to improve digital tax collection, further reforms are needed to address gaps and maximize revenue from the growing digital economy.

Olayemi and Olawole (2024) asserted that revenue leakages in Nigeria present significant challenges to the country's economic development. These leakages, which refer to the loss of potential government revenue through fraud, mismanagement, and inefficiency, have far-reaching consequences. Firstly, they diminish the funds available for essential public services, such as healthcare, education, and infrastructure. When government revenue decreases due to these leakages, it directly affects the ability of the government to invest in programs that uplift citizens' quality of life. This burden often falls disproportionately on ordinary citizens, who face increased taxes or reduced services, making it even harder for them to thrive. The pervasive nature of revenue leakages creates an environment where corruption can flourish. When there is a lack of accountability and transparency in how public funds are managed, it opens the door for corrupt practices. This not only undermines public trust in government institutions but also perpetuates a cycle of inefficiency that stifles innovation and progress. The impact of revenue leakages is felt by everyone, from the average citizen struggling to access basic services to the broader economy, which suffers from stagnation and missed opportunities for growth.

In 2022, the Anambra State Government of Southeast Nigeria took a significant step towards modernizing its revenue collection processes by launching a digital tax collection system. The move was aimed at curbing illegal tax collection activities that had been depriving citizens of their earnings under the guise of taxation. This initiative reflects a broader trend across Nigeria to enhance transparency, improve efficiency, and close loopholes that lead to revenue leakages, ensuring that internally generated revenue (IGR) is fully accounted for. In her report, Onuigbo (2022), stated that Mr. Richard Madiebo, the Chief Executive Officer of the Anambra State Internal Revenue Service (AIRS), emphasized that the shift to digital tax collection would bring much-needed sanity to the tax system. By digitizing the revenue collection process, the government aims to eliminate manual handling, which often leads to corruption and mismanagement, and instead provide a transparent and accountable framework for tax administration. This digital transformation also empowers taxpayers by providing a more straightforward, faster, and more reliable way to meet their tax obligations.

The digital tax collection strategy involves the identification of strategic payment points across the state, which are dedicated to collecting taxes from commercial entities such as trucks and other businesses. During the launch of these points, Governor Charles Chukwuma Soludo, represented by his deputy, Mr. Onyekachukwu Ibezim, explained that these designated collection centers would help reduce illegal tax

practices. By creating secure, government-controlled channels, the risk of individuals being exploited by unauthorized tax collectors is minimized.

Eme and Chukwurah, (2015) asserted that to enhance government revenues, several viable options are available. One primary approach is raising the tax rate, which involves increasing the percentage of income that individuals and businesses are obligated to pay. While this strategy can provide a significant boost to government funds, it often comes with concerns about the financial burden it places on taxpayers and the potential impact on economic growth. The scholars emphasized the importance of blocking existing leakages in the financial system. This entails identifying and eliminating inefficiencies or corrupt practices that lead to the misallocation or loss of public funds. By ensuring that every naira collected is utilized effectively and transparently, governments can improve their revenue without imposing further financial strain on citizens.

According to Olurankinse and Oladeji (2024), the implementation of electronic taxation (e-taxation) in Nigeria has the potential to significantly mitigate the prevalence of tax evasion and avoidance, which have long plagued the country's financial landscape. The traditional tax collection methods often leave room for manipulation and non-compliance, creating barriers to the effective mobilization of revenue for government projects and services. E-taxation offers a more streamlined and transparent approach to tax collection. By leveraging digital payment systems, the government can make the tax-paying process more convenient and accessible for citizens. This transition not only reduces opportunities for evasion but also fosters a sense of accountability among taxpayers. When people can easily track their tax obligations and payments through digital platforms, they are more likely to comply with tax regulations. They highlighted that there is a strong correlation between the effectiveness of e-taxation systems and the overall revenue generated by the government. With improved efficiency in tax collection processes, the government can enhance its revenue streams, allowing for better funding of essential services such as education, healthcare, and infrastructure.

Otekunrin, Nwanji, Eluyela, Inegbedion, and Eleda (2021) stated that the damages caused by tax evasion have adversely affected government revenue. They emphasize that tax evasion is not just a financial wrongdoing but a significant obstacle to the economic growth and development of a nation. When individuals and corporations evade taxes, the government experiences considerable losses in potential revenue, which directly impacts its ability to fund essential public services such as education, healthcare, infrastructure, and social welfare programs. The authors pointed out that taxes play a crucial role in shaping the economic landscape by redistributing income and ensuring that wealthier segments of society contribute fairly to the common good. When tax revenues decline due to evasion, it creates a ripple effect that ultimately undermines public trust in the government and its institutions. This erosion of trust can lead to a vicious cycle, where the public feels less inclined to comply with tax laws, further exacerbating the issue.

John-Akamelu and Iyidiobi (2019) conducted a thought-provoking study that highlighted the positive impact of e-taxation on reducing tax malpractices in Anambra State. According to their findings, the adoption of electronic tax systems has significantly curbed illegal tax practices such as tax evasion and underreporting. This technological shift has introduced more transparency and accountability in the state's tax processes, making it harder for individuals or organizations to engage in fraudulent activities. Furthermore, secondary data from their research indicated a marked improvement in tax revenue collection since the implementation of e-taxation. This suggests that not only has e-taxation fostered a more honest tax system, but it has also contributed to boosting the state's financial resources, enhancing the government's ability to invest in infrastructure and public services.

The findings by Okoye and Ezejiofor (2014) revealed a promising avenue for improving tax collection in Enugu State through the implementation of electronic taxation, or e-taxation. Their research indicated that e-taxation has the potential not only to significantly enhance the state's internally generated revenue but also to tackle the persistent problem of tax evasion. In Enugu State, like in many regions, traditional tax collection methods often face challenges such as inefficiency and a lack of transparency, which can lead to widespread tax evasion. However, the adoption of e-taxation systems presents a transformative solution. By moving tax processes online, the government can streamline operations, making it easier for citizens to comply with their tax obligations while reducing opportunities for evasion. E-taxation can foster a more accountable and transparent environment, instilling greater public confidence in the tax system. This trust is crucial for encouraging voluntary compliance among taxpayers. When people

feel that their contributions are being managed effectively and transparently, they are more likely to fulfill their tax responsibilities.

### **Effectiveness of Capacity-Building Programmes on Handling Digital Tax Systems**

Nose and Mengistu (2023) emphasize that achieving significant revenue gains is not merely a matter of implementing new financial strategies; rather, it fundamentally relies on a comprehensive framework of supportive policies, legislative changes, and administrative reforms. These elements are crucial for creating an environment conducive to revenue generation. Moreover, the authors stress the importance of adequate digital connectivity in today's increasingly digital economy. Without robust and reliable digital infrastructure, even the most well-designed revenue systems may fall short of their potential. This highlights the necessity for governments to invest in technology that can enhance communication and streamline processes, making it easier for tax administration systems to operate efficiently. Equally vital is the role of capable tax administration staff. Trained professionals who understand the intricacies of tax law and the nuances of effective revenue collection are essential. Their expertise can make a substantial difference in how policies are implemented and how taxpayer compliance is encouraged. Without the right personnel in place, even the best policies and systems may struggle to deliver the desired revenue outcomes.

The introduction of digital technology solutions by the United Nations Development Programme (UNDP) to the Federal Inland Revenue Service (FIRS) has significantly transformed Nigeria's tax administration (UNDP, 2024). Central to this initiative is the Digital Transformation Maturity Model Assessment, which helps evaluate and improve the digital capabilities of tax authorities, allowing for targeted strategies that enhance efficiency. The digitization of tax processes has streamlined operations, reducing manual errors and facilitating easier compliance for taxpayers. Alongside this, improvements in information storage systems have bolstered data management and security, enabling real-time analysis and informed decision-making. Comprehensive training for tax officials in areas like digital taxation and international standards ensures they are well-equipped to navigate modern tax complexities, promoting transparency and compliance. UNDP's capacity-building efforts extend to sub-national tax authorities, enhancing operational efficiency across different government levels (UNDP, 2024). Collaborations with regional organizations, such as the West African Tax Administration Forum, foster knowledge sharing and address the interplay between taxation and trade. Overall, these comprehensive initiatives significantly enhance the effectiveness of Nigeria's tax systems, contributing to sustainable economic growth and improved tax administration.

According to the Asian Development Bank (2022), tax administration reform through digital transformation is a crucial component in enhancing the capacity, efficiency, and speed of tax systems. As economies grow increasingly complex and interconnected, traditional tax administration methods often find it challenging to keep pace with the evolving demands of modern fiscal environments. Digital transformation in tax administration involves the integration of technology into tax collection processes, streamlining and optimizing these operations. This approach allows tax authorities to harness data analytics, automate routine tasks, and improve compliance monitoring. By employing digital tools, governments can respond more swiftly to shifts in economic conditions, thus enhancing their ability to manage revenue collection effectively. Moreover, digital transformation fosters transparency and accountability within tax systems. By implementing online platforms for tax filing and payment, governments can make the tax process more accessible to citizens, reducing opportunities for corruption and evasion. This not only builds public trust but also encourages higher rates of compliance among taxpayers.

The significance of tax capacity in fostering sustainable development has gained increasing recognition among jurisdictions and international organizations. The Addis Ababa Action Agenda, adopted in 2015 by 193 UN member states, highlights the critical role of enhanced tax capacity in achieving the Sustainable Development Goals (SDGs). (Britacom, 2021) This recognition has led to a concerted effort to provide support for developing countries to improve their revenue collection capabilities. A robust tax system is essential for financing public services, infrastructure, and social programs, which are pivotal for long-term economic and social development. The Addis Agenda emphasizes that adequate tax capacity is indispensable for mobilizing domestic resources and reducing dependency on external aid. Furthermore, it contains commitments to assist developing countries in enhancing their revenue collection capabilities.

This support is crucial, as many developing nations face significant challenges in establishing efficient tax systems, often resulting in low tax revenue and inadequate public services. The global approach to tax capacity building is exemplified by initiatives like the Forum on Tax Administration (FTA) and the Capacity Building Programme (2015-2016), led by Canada and China. By sharing best practices and coordinating efforts, these programs aim to strengthen the tax administrations of developing countries, enabling them to better manage tax matters. Tax administration capacity building involves a comprehensive process aimed at enhancing the ability of tax authorities and organizations to effectively manage tax systems. This includes training personnel, implementing modern technologies, and developing policies that foster a culture of compliance and accountability.

Capacity building encompasses various dimensions, such as human resources, institutional frameworks, and technological infrastructure. Each of these components plays a crucial role in establishing a functioning tax system (Britacom, 2021). A sustainable approach to capacity building ensures that tax administrations can maintain and adapt their capabilities over time. This involves continuous training, investment in technology, and responsive policies that can adapt to changing economic conditions and challenges. As tax administrations increasingly adopt digital systems to streamline processes and improve efficiency, capacity-building programs must focus on equipping personnel with the necessary skills to navigate these systems.

### **Empirical Review**

Adegoke and Lawal (2022) examined the role of technology in tax administration across State Boards of Internal Revenue Services (SBIRS) in Nigeria. Their study showed that while some states have fully adopted digital tools, others are still transitioning gradually, and a few still depend largely on manual methods. Lagos State Internal Revenue Service (LIRS) emerged as the most advanced in digital adoption, using technology to improve tax processing and reporting. However, many SBIRS agencies began adopting digital systems only recently, especially during the COVID-19 pandemic. Challenges such as data privacy concerns, system downtime, poor interfaces, and a lack of IT experts hinder effective digital adoption. Despite these problems, the study emphasized that technology helps tax agencies identify taxpayers, verify information, and reduce evasion. They recommended faster automation of tax processes, regular training for revenue personnel, and stronger data protection to improve tax administration nationwide.

Adejuwon and Olasunkanmi (2023) investigated whether the introduction of digital tax systems improved Nigeria's tax revenue. Using a paired t-test to compare revenue before and after digitalization, they found that total tax revenue actually declined after the introduction of e-taxation. Non-oil revenue dropped significantly, while the decline in oil revenue was not statistically significant. Their findings suggest that the immediate benefits of digital tax systems are not automatic and may be affected by weak taxpayer awareness and low adoption. They recommended phased implementation of digital systems, continuous taxpayer sensitization, and improved engagement by the Federal Inland Revenue Service (FIRS). The study concluded that technology alone cannot solve revenue challenges unless behavioural and infrastructural issues are also addressed.

Similarly, Ifeyinwa, Chukwuma, and Azubuike (2023) assessed the impact of e-tax compliance on Company Income Tax (CIT) and Petroleum Profit Tax (PPT). Their results showed only slight increases in revenue after the adoption of e-taxation. Although these increases were small, the authors noted that digital systems enhanced transparency, monitoring, and access to tax services. However, limited enforcement and inconsistent cooperation from taxpayers reduced the system's overall effectiveness. The study recommended stronger collaboration between government agencies and taxpayers, better enforcement, and support systems to help taxpayers navigate the digital platforms. They concluded that e-tax compliance has potential but requires improved implementation strategies.

In the same direction, Ine-Tonbarapa and Lazbery (2024) reviewed digital taxation policies in Nigeria in response to the growing digital economy. They assessed policies such as the Finance Act 2020 and Significant Economic Presence (SEP) Orders aimed at taxing online businesses and digital income. The authors observed that despite the importance of digital taxation, problems such as unclear policy guidelines, inconsistent computation methods, and a lack of reliable data limit its effectiveness. They recommended clearer legal frameworks, international cooperation, and more public awareness. According to the study, digital taxation can boost revenue but needs strong administrative and diplomatic efforts to succeed in an increasingly digital economy.

Iorlaha, Iorun, and Ijuwo (2024) presented a conceptual review on how innovative technologies such as blockchain, data analytics, and real-time reporting can improve tax enforcement and compliance in Nigeria. They argued that these technologies reduce fraud, increase transparency, and help build trust between taxpayers and tax authorities. By minimizing human interference and improving record keeping, digital tools can significantly increase revenue and support national development. They recommended strategic investment in digital infrastructure, mobile payment systems, artificial intelligence, and real-time data systems. Their study concluded that adopting modern technology is essential for strengthening Nigeria's revenue system.

Omesi and Appah (2022) assessed the impact of electronic taxation on Nigeria's tax performance using quarterly data from 2012 to 2020. Their results showed significant improvement in Company Income Tax (CIT) and Value Added Tax (VAT) after e-tax adoption, although Capital Gains Tax (CGT) remained unchanged. They concluded that digital taxation improves efficiency and transparency in tax collection. They recommended strict compliance, continued automation, and government support to strengthen digital tax platforms.

Hamudi (2022) studied tax revenue collection in Zimbabwe and identified major obstacles such as poor tax education, weak taxpayer identification systems, inadequate monitoring, and corruption. These challenges discouraged compliance and weakened revenue outcomes. The study recommended extensive taxpayer education, modernization of tax infrastructure, and collaboration with telecommunications companies to improve digital identification. Raising staff morale and ensuring transparent auditing were also highlighted as important strategies.

Oloyede and Funmilayo (2022) focused on electronic governance and tax revenue in Nigeria. Their study found that e-taxation reduces fraud, minimizes manual errors, improves reconciliation, and increases transparency. They argued that digital tax systems save time and reduce administrative burdens. They recommended full adoption of e-taxation across all levels of government and continuous taxpayer education to foster acceptance and compliance.

Okeke et al. (2023) developed a comprehensive digital taxation model for Nigeria. Their model integrates blockchain for transparency, APIs for data exchange, and artificial intelligence for compliance monitoring. The study emphasized digital payments, automated compliance detection, and real-time reporting as key components of modern tax administration. They argued that adopting this model would increase revenue, reduce evasion, and improve public trust. The authors concluded that strong political will, institutional capacity, and collaboration among stakeholders are essential for success.

Philips, Monisola, and Olayinka (2025) examined how tax justice and administration affect compliance among small and medium enterprises (SMEs) in Lagos State. Their results showed that taxpayer perceptions of fairness and effective administration significantly influence compliance behaviour. They recommended tax incentives, regular taxpayer education, and simplified procedures to build trust and expand the tax net.

John-Akamelu and Iyidiobi (2019) looked at e-taxation in Anambra State and found that digital tax systems significantly improved revenue generation and reduced tax malpractice. Their study showed that e-taxation increased revenue and enhanced monitoring. They recommended building a well-organized taxpayer database to improve efficiency and ensure wider tax coverage.

Related to this, Onwunyi, Okonkwo, and Obiefuna (2023) investigated revenue mobilization challenges in Anambra State. They observed that low technological skills among revenue staff hinder the effectiveness of e-taxation. Their findings showed that digital tax systems have potential but require adequate training and capacity building for AIRS staff. They recommended full adoption of e-taxation and improved technical capacity to enhance revenue mobilization.

Falana et al. (2024) examined digital tax administration in Nigeria's informal sector and found that digital literacy and access to digital payment platforms significantly improve tax compliance. They recommended greater investment in digital infrastructure, training, and awareness campaigns to support informal sector taxpayers.

Finally, Mchwampaka and Bingireki (2024) studied Electronic Fiscal Device (EFD) systems in Tanzania and found a strong positive relationship between EFD adoption and revenue collection. Their results emphasized that technology must be complemented with user training and technical support. They recommended sustained education, technical assistance, and comparative studies to strengthen digital revenue collection in local governments.

## Research Method

A descriptive survey design was used for this study to collect information directly from AIRS staff and to generalize their views about digital tax systems, including how these systems affect efficiency, accountability, and revenue mobilization. The study took place in Anambra State with a focus on the Anambra State Internal Revenue Service (AIRS), which is central to the state's financial growth and development. The population for the study consisted of 331 permanent AIRS staff across all departments, including Collection, PAYE, Assessment, Accounts, and Inspection. Because the population was not too large, a census sampling technique was adopted. This allowed all staff members to be included, which helped improve the accuracy and reliability of the findings. Data were gathered from both primary and secondary sources. Primary data came from structured questionnaires, while secondary data were obtained from official AIRS documents, government reports, and relevant academic materials. The questionnaire used a five-point Likert scale and was administered over a period of two weeks to allow staff enough time to respond. To ensure the instrument was valid, experts reviewed the questionnaire to confirm that the items were clear and relevant. Reliability was established through a pilot study using the test-retest method, which produced an average correlation coefficient of 0.932, showing that the instrument was highly reliable.

## Data Analysis

### Research Question One

Research Question One wants to determine whether digital tax collection has reduced incidences of revenue leakages.

**Table 1: Revenue Leakages**

| S/N | Item Description  | SA                     | A                      | UN               | D                      | SD                    | Total                  |
|-----|---|------------------------|------------------------|------------------|------------------------|-----------------------|------------------------|
| 1   | Digital tax collection reduces diversion of funds by tax officials.       | 142<br>(43.6%)         | 120<br>(36.8%)         | 4 (1.2%)         | 35<br>(10.7%)          | 25<br>(7.7%)          | 326<br>(100%)          |
| 2   | Automated tax systems minimize manual errors leading to revenue leakages. | 150<br>(46.0%)         | 118<br>(36.2%)         | 3 (0.9%)         | 32 (9.8%)              | 23<br>(7.1%)          | 326<br>(100%)          |
| 3   | Revenue collection records are more accurate due to digital tools.        | 147<br>(45.1%)         | 121<br>(37.1%)         | 5 (1.5%)         | 31 (9.5%)              | 22<br>(6.7%)          | 326<br>(100%)          |
| 4   | Digital tax systems minimize revenue loss in Anambra State.               | 141<br>(43.3%)         | 117<br>(35.9%)         | 6 (1.8%)         | 36<br>(11.0%)          | 26<br>(8.0%)          | 326<br>(100%)          |
| 5   | Real-time monitoring via digital systems reduces revenue losses.          | 152<br>(46.6%)         | 115<br>(35.3%)         | 4 (1.2%)         | 30 (9.2%)              | 25<br>(7.7%)          | 326<br>(100%)          |
|     | Total   | <b>732<br/>(44.9%)</b> | <b>591<br/>(36.3%)</b> | <b>22 (1.3%)</b> | <b>164<br/>(10.1%)</b> | <b>121<br/>(7.4%)</b> | <b>1630<br/>(100%)</b> |

Note: Figures in Parenthesis are percentages

**Figure 1: Revenue Leakages**



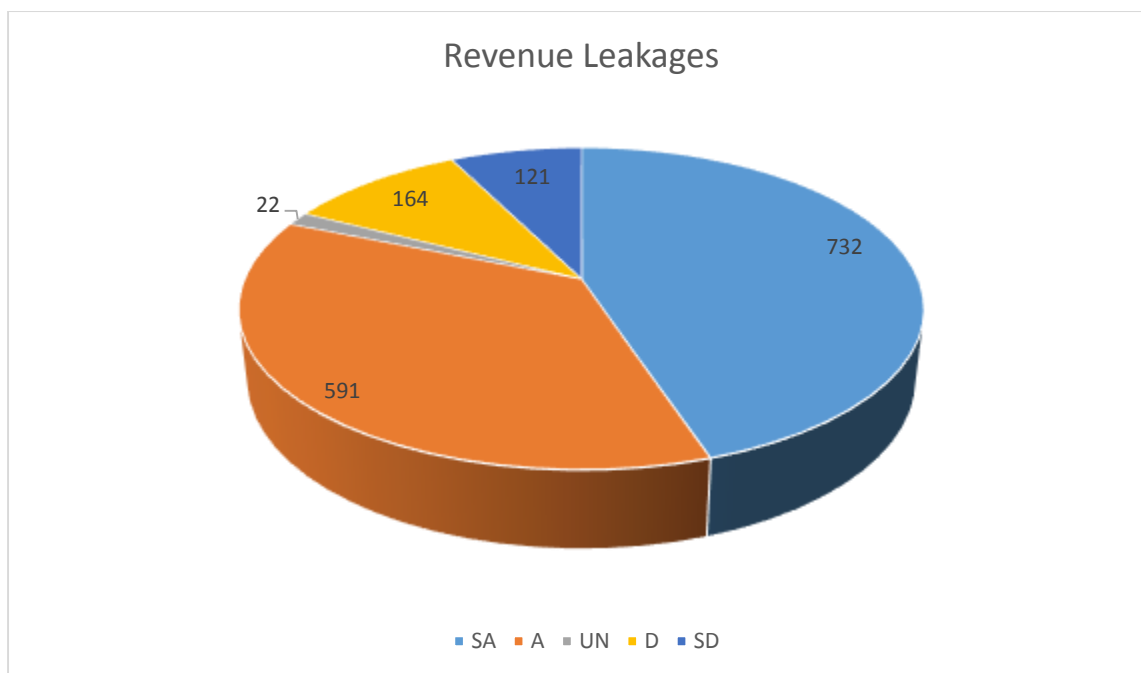


Table 1 and Figure 1 indicate that the majority of respondents provided positive assessments of the effect of digital tax collection on revenue leakages. Specifically, 732 responses (44.9%) strongly agreed and 591 responses (36.3%) agreed. In contrast, 22 responses (1.3%) were undecided, while 164 (10.1%) disagreed and 121 (7.4%) strongly disagreed. These findings indicate that a large proportion of respondents believe digital tax collection reduces diversion of funds, minimizes manual errors, enhances the accuracy of revenue records, and reduces revenue losses through real-time monitoring. However, a small segment expressed contrary views, suggesting that some challenges may still exist in curbing leakages completely.

### Research Question Two

Research question two wants to assess the effect of capacity-building programmes provided to AIRS staff for improving their handling of digital tax systems.

**Table 2: Capacity-Building Programmes for AIRS Staff**

| S/N | Item Description   | SA                     | A                      | UN               | D                      | SD                    | Total                  |
|-----|--|------------------------|------------------------|------------------|------------------------|-----------------------|------------------------|
| 1   | AIRS staff receive adequate training on digital tax systems.                       | 136<br>(41.7%)         | 115<br>(35.3%)         | 7 (2.1%)         | 40<br>(12.3%)          | 28<br>(8.6%)          | 326<br>(100%)          |
| 2   | Capacity-building programmes improve staff efficiency in handling digital systems. | 145<br>(44.5%)         | 120<br>(36.8%)         | 6 (1.8%)         | 34<br>(10.4%)          | 21<br>(6.4%)          | 326<br>(100%)          |
| 3   | Frequent training sessions address challenges with digital tax tools.              | 139<br>(42.6%)         | 118<br>(36.2%)         | 5 (1.5%)         | 38<br>(11.7%)          | 26<br>(8.0%)          | 326<br>(100%)          |
| 4   | Training enhances tax system operations.   | 143<br>(43.9%)         | 122<br>(37.4%)         | 4 (1.2%)         | 33<br>(10.1%)          | 24<br>(7.4%)          | 326<br>(100%)          |
| 5   | Training covers practical knowledge on troubleshooting digital tax tools.          | 141<br>(43.3%)         | 117<br>(35.9%)         | 6 (1.8%)         | 36<br>(11.0%)          | 26<br>(8.0%)          | 326<br>(100%)          |
|     | Total  | <b>704<br/>(43.2%)</b> | <b>592<br/>(36.3%)</b> | <b>28 (1.7%)</b> | <b>181<br/>(11.1%)</b> | <b>125<br/>(7.7%)</b> | <b>1630<br/>(100%)</b> |

Note: Figures in Parenthesis are percentages

**Figure 2: Capacity-Building Programmes for AIRS Staff**

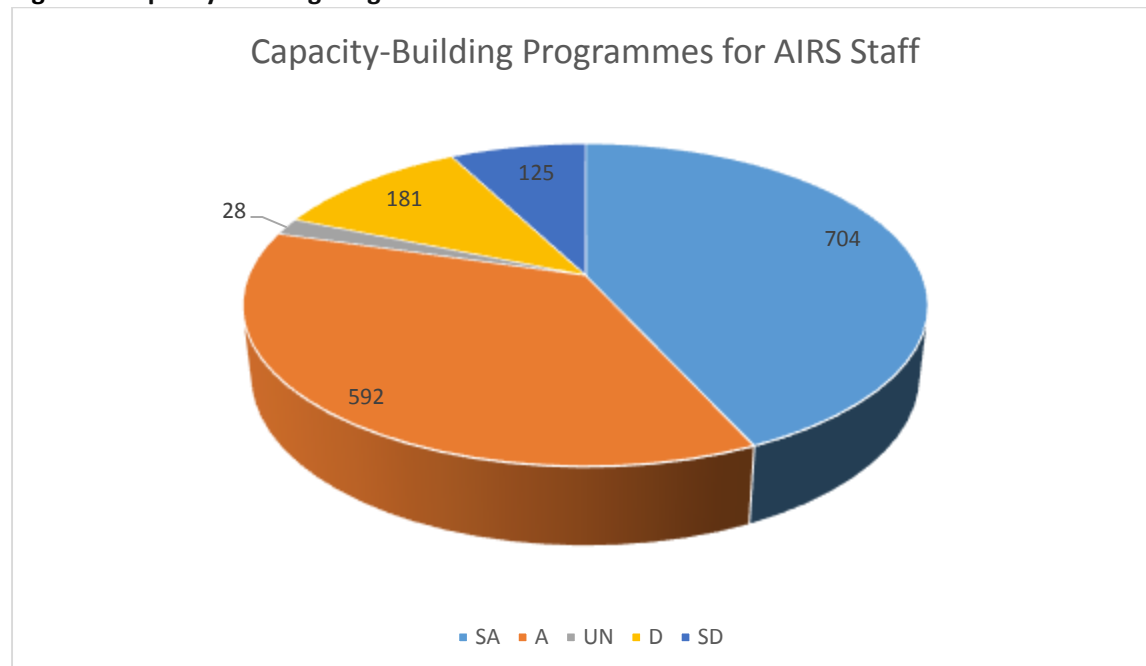


Table 2 and Figure 2 reveal that the majority of respondents gave positive assessments of capacity-building programmes for AIRS staff. Specifically, 704 responses (43.2%) strongly agreed and 592 responses (36.3%) agreed. In contrast, 28 responses (1.7%) were undecided, while 181 (11.1%) disagreed and 125 (7.7%) strongly disagreed. These findings indicate that most respondents believe that AIRS staff receive adequate training on digital tax systems, with such programmes improving efficiency, addressing operational challenges, and enhancing troubleshooting capacity. However, a minority of responses reflect reservations, suggesting the need for more consistent and practical training initiatives

## Discussion of Findings

**Hypothesis one:**  $H_0$ : Digital tax collection has not significantly reduced incidences of revenue leakages.

A majority (81.2%) viewed digital collection positively for curbing leakages through reduced diversion, errors, improved accuracy, and monitoring. The hypothesis test upheld this ( $R = 0.9459$ ,  $R^2 = 0.8948$ ,  $p = 0.015$ ). This corroborates literature on leakages in Nigeria. Oloyede and Funmilayo (2022) highlighted e-taxation's role in limiting revenue losses via transparency, aligning with the real-time monitoring praised here. John-Akamelu and Iyidiobi (2019) found e-taxation in Anambra reduces malpractice and boosts revenue, consistent with the IGR peaks (e.g., ₦36.1 billion in 2023). Omesì and Appah (2022) reported significant pre-post improvements in company income tax and VAT due to reduced leakages post-e-tax.

In African settings, Mchwampaka and Bingireki (2024) showed Electronic Fiscal Devices (EFDs) in Tanzania positively correlate with revenue ( $R^2 = 0.523$ ), reducing losses through automation—similar to this study's mechanisms. Yet, the 17.5% dissent aligns with Ine-Tonbarapa and Lazbery (2024), who noted policy clarity issues causing persistent leakages in digital taxation. This research advances the field by evidencing leakages reduction in a critical sector, recommending complementary reforms to eliminate remaining challenges.

**Hypothesis two:**  $H_0$ : Capacity-building programmes provided to AIRS staff have no significant effect on their proficiency in handling digital tax systems.

The second research question evaluated whether training programmes for Anambra State Internal Revenue Service (AIRS) staff improved proficiency in handling digital systems. While descriptive results suggested optimism—43.2% strongly agreed and 36.3% agreed—regression results painted a different

picture. The analysis revealed a weak negative correlation ( $R = -0.3082$ ), very low explanatory power ( $R^2 = 0.095$ ), and a non-significant p-value (0.6139). Thus, the null hypothesis was accepted, indicating that current training programmes have not significantly enhanced staff proficiency. This divergence between perception and statistical outcome suggests that while staff believe training exists, its effectiveness may be limited. Umar et al. (2023) in Gombe recommended enhancing ICT training for efficiency, noting moderate relationships without full impact—mirroring the weak correlation here. Adegoke and Lawal (2022) emphasized training to overcome IT shortages in state boards, suggesting current programs in Anambra (as per 18.8% negatives) may lack practicality. Onwunyi et al. (2023) in Anambra identified technological skill deficiencies hindering e-tax, supporting the need for consistent initiatives.

Broader studies like Okeke et al. (2023) proposed AI and blockchain training in digital models, while Philips et al. (2025) linked administration quality to compliance, implying capacity-building's role. The IGR growth despite non-significance suggests indirect benefits, but this study reveals a gap: programs must be more targeted, as recommended by Falana et al. (2024) for informal sector literacy. This contributes by quantifying inefficacy, urging reforms for proficiency.

## CONCLUSION

This study examined the impact of digital tax collection and staff capacity-building programmes on revenue administration in the Anambra State Internal Revenue Service (AIRS) between 2014 and 2023. The findings showed that digital tax collection has played a major role in reducing revenue leakages, improving accuracy, and strengthening monitoring processes. Both descriptive and inferential results confirmed this, with strong statistical evidence indicating that digital systems significantly curb leakages and improve accountability. This aligns with existing studies that highlighted the effectiveness of e-taxation in reducing diversion, fraud, and manual errors in Nigeria and across Africa. However, the study also revealed that capacity-building programmes for AIRS staff have not had a significant effect on their proficiency in using digital tax systems. Although many staff believed training activities were helpful, the regression analysis showed no meaningful statistical impact. This suggests that current training efforts may not be adequately designed, practical, or sustained enough to develop the needed skills for effective digital tax administration. This finding agrees with earlier research that identified weak ICT competence and inadequate training as major barriers to digital revenue reforms in Nigeria.

## RECOMMENDATIONS

1. Since the study found that digital tax collection significantly reduces revenue leakages, AIRS should further strengthen its digital platforms. This includes upgrading existing systems, improving real-time monitoring tools, and ensuring all revenue channels are fully automated. These steps will deepen transparency, reduce manual handling, and eliminate the remaining leakages noted by some respondents.
2. Because the study showed that current training programmes do not significantly improve staff proficiency in handling digital tax systems, AIRS should overhaul its capacity-building approach. Training should be more practical, continuous, and targeted to staff needs. Hands-on ICT sessions, system-based simulations, and regular follow-up evaluations should be introduced to ensure staff acquire the skills required to fully utilize digital tax tools.

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