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Article

Tax Audit Practices and the Petroleum Sector Revenue Generation in Nigeria

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Abstract: Tax revenue is a critical source of government funding, particularly in petroleum-rich economies like Nigeria. However, the efficiency of tax collection in the petroleum sector is often hindered by tax evasion, weak compliance mechanisms, and inefficiencies in tax audit practices. This study examines the impact of tax audit detection, tax audit files, tax compliance in Nigeria over the period of 2011 to 2023. Using an ex-post facto research design and secondary data from the Federal Inland Revenue Service and the Nigerian Bureau of Statistics, the study employs the Autoregressive Distributed Lag model to assess the long-run and short-run relationships between tax audit practices and petroleum sector revenue generation. The results indicate a significant positive relationship between tax audit detection and petroleum profit tax, demonstrating that effective monitoring discourages tax evasion and enhances revenue collection. Additionally, the study finds that a higher percentage of completed tax audits relative to expected audits leads to improved tax revenue, highlighting the importance of audit effectiveness. Tax compliance exerts the strongest influence on petroleum profit tax, underscoring the need for policies that encourage voluntary tax adherence. Furthermore, government investment in tax technology, including e-filing, artificial intelligence audits, and blockchain solutions, significantly enhances petroleum tax revenue by improving transparency and efficiency in tax administration. The findings align with the tax compliance theory, reinforcing the notion that strict enforcement and technological advancements improve revenue outcomes. Based on the results, the study recommends strengthening tax audit frameworks, increasing compliance initiatives, and expanding digital innovations in tax collection to maximize petroleum sector revenue. These measures will not only improve tax efficiency but also enhance Nigeria's fiscal sustainability and economic development.

Keywords: Tax Audit Practices, Petroleum Profit Tax, Tax Compliance, Tax Audit Detection, Revenue Generation.

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1. Introduction

Tax revenue is fundamental to economic development, providing governments with the necessary funds to finance infrastructure, social services, and public administration. In resource-rich countries like Nigeria, petroleum profit tax (PPT) is one of the primary sources of revenue. The petroleum sector accounts for a significant portion of Nigeria's Gross Domestic Product (GDP) and government earnings, making effective tax administration within the industry crucial for national fiscal sustainability (Adegbite & Ekeocha, 2023). Despite the importance of petroleum taxation, Nigeria has long struggled with issues related to tax compliance, evasion, and inefficiencies in tax audit practices. These challenges undermine the government's ability to generate sufficient revenue from petroleum operations, exacerbating fiscal deficits and economic instability.

Tax audit practices are a critical component of effective tax administration, as they help detect non-compliance, reduce tax evasion, and improve revenue collection (Rotimi et al., 2022). The effectiveness of tax audits depends on various factors, including the efficiency of tax audit detection, the number of tax audits conducted relative to those expected, and the level of voluntary tax compliance by petroleum firms. In recent years, the adoption of technology in tax administration has also gained traction as an essential tool for improving tax audit efficiency. Digital innovations such as electronic filing (e-filing), artificial intelligence-driven audits, and blockchain technology have been implemented in several countries to enhance transparency and minimize tax leakages (OECD, 2021). However, Nigeria's tax administration system still faces structural and operational bottlenecks that limit the full potential of tax audits in maximizing petroleum revenue collection.

The Nigerian government, through the Federal Inland Revenue Service (FIRS), has attempted to strengthen tax audits in the petroleum sector by increasing enforcement mechanisms, mandating proper record-keeping, and introducing technology-driven audit techniques. However, the effectiveness of these initiatives remains an open question, as tax evasion and revenue underreporting persist within the sector (Awotomilusi, 2023). Given the petroleum sector's critical role in Nigeria's economy, understanding the impact of tax audit practices on petroleum revenue generation is essential for shaping effective tax policies and improving compliance. This study, therefore, seeks to analyze the relationship between tax audit detection, tax audit files, tax compliance, and technology investment in relation to petroleum profit tax revenue in Nigeria.

The Nigerian petroleum sector has historically been a significant contributor to government revenue, yet the industry has been plagued by persistent challenges related to tax evasion, weak enforcement mechanisms, and an inefficient tax audit system. Since the discovery of oil in Nigeria in the 1950s, petroleum taxation has undergone various transformations, including the enactment of the Petroleum Profit Tax Act (PPTA) of 1959, which provides the legal framework for taxing oil companies operating in Nigeria (FIRS, 2022). Despite these legislative measures, revenue leakages and non-compliance have remained a recurring issue. The weak enforcement of tax audits has allowed multinational oil corporations to exploit loopholes in tax regulations, leading to underreporting of taxable profits and significant revenue losses for the government (Ekeocha, 2022).

Several studies have attempted to examine the factors influencing petroleum tax revenue generation in Nigeria. Some scholars argue that the inefficiency of tax audits and low detection rates of tax evasion are among the primary causes of revenue shortfalls in the petroleum sector (Des-Wosu et al., 2023). Others contend that a lack of voluntary tax compliance and inadequate investment in tax technology has further exacerbated the problem (Rotimi et al., 2022). Theoretical perspectives on tax compliance, such as the Allingham and Sandmo (1972) model, emphasize that the likelihood of tax evasion is inversely related to the probability of detection and the severity of penalties imposed. This suggests that an efficient tax audit system should enhance revenue generation by increasing the risk of detection and discouraging tax evasion. However, empirical evidence on the effectiveness of Nigeria's tax audit system in achieving this outcome remains inconclusive, necessitating further investigation.

The literature on petroleum taxation and tax audit effectiveness presents conflicting findings. While some studies find a positive correlation between rigorous tax audits and increased revenue

collection, others argue that the inefficiency of tax authorities, corruption, and weak institutional frameworks limit the impact of tax audits on revenue generation (OECD, 2021). Moreover, there is limited research that specifically examines the role of technology investment in tax administration within the Nigerian petroleum sector. Given the increasing adoption of digital tax solutions globally, it is imperative to assess whether Nigeria's investment in tax technology has significantly improved the efficiency of tax audits and overall petroleum revenue collection.

Another major problem is that many tax audits conducted by FIRS do not translate into meaningful improvements in revenue collection. A significant proportion of tax audits remain incomplete or face bureaucratic bottlenecks that delay enforcement actions. The inconsistency in tax audits raises concerns about the credibility and efficiency of Nigeria's tax administration system (Adegbite & Ekeocha, 2023). Additionally, weak inter-agency coordination between the FIRS, Nigerian National Petroleum Corporation (NNPC), and other regulatory bodies has further contributed to inefficiencies in tax enforcement and revenue tracking.

Given these gaps in the literature and the persistent challenges in petroleum taxation, this study seeks to provide an empirical assessment of how tax audit detection, tax audit files, tax compliance, and technology investment influence petroleum profit tax revenue in Nigeria. By employing an econometric approach, this study aims to fill the gap in existing research and provide evidence-based recommendations for improving tax audit effectiveness in the petroleum sector.

2. Literature Review

2.1 Theoretical Framework

This study is anchored on the Tax Compliance Theory proposed by Allingham and Sandmo (1972) and the Deterrence Theory of Taxation advanced by Becker (1968). These theories provide a foundation for understanding the impact of tax audit practices on revenue generation in Nigeria's petroleum sector. They explain the behavioral responses of taxpayers to audits, enforcement mechanisms, and penalties, which are critical in evaluating tax compliance and revenue optimization.

Tax Compliance Theory

Allingham and Sandmo (1972) developed the **Tax Compliance Theory** to examine the behavior of taxpayers in relation to tax audits and penalties. The theory posits that taxpayers make rational decisions when determining whether to comply with tax laws or engage in evasion. It assumes that taxpayers weigh the benefits of tax evasion—such as retaining a higher proportion of their income—against the potential costs, including the probability of detection and the severity of penalties imposed upon discovery. According to this theory, when tax audit practices are weak and the risk of detection is low, non-compliance is likely to increase. Conversely, when tax authorities implement rigorous audit mechanisms, enhance transparency, and impose stringent penalties, taxpayers are more likely to comply. The implication of this theory for the Nigerian petroleum sector is significant. Since the petroleum industry is a major source of government revenue, tax evasion can have substantial fiscal consequences. An effective tax audit system can serve as a deterrent against non-compliance, ensuring that petroleum companies accurately report their earnings and pay the appropriate Petroleum Profit Tax (PPT).

Deterrence Theory of Taxation

The Deterrence Theory of Taxation, formulated by Becker (1968), provides additional insights into the enforcement aspect of tax compliance. Becker argued that individuals are motivated by self-interest and will comply with tax laws only when the perceived costs of non-compliance exceed the benefits. He emphasized that increasing the probability of detection and imposing severe penalties reduce the incentive for tax evasion. This theory underscores the importance of stringent tax audit practices in preventing tax evasion in the petroleum sector. If tax authorities in Nigeria establish a robust audit system that effectively

detects underreporting and fraudulent activities, companies will be more inclined to comply with tax regulations. Furthermore, investments in tax audit technology, such as artificial intelligence (AI) and blockchain, can enhance the effectiveness of audits, making it more difficult for firms to evade taxes.

A key assumption of both theories is that taxpayers are rational economic agents who make decisions based on cost-benefit analyses. This means that companies operating in the Nigerian petroleum sector will evaluate the likelihood of being audited and the severity of penalties before deciding whether to comply with tax laws. If tax audits are frequent, unpredictable, and technologically advanced, compliance levels will likely increase. Another assumption is that tax authorities have the capacity to enforce tax laws effectively. This suggests that the Federal Inland Revenue Service (FIRS) must be adequately equipped with the necessary resources, skilled personnel, and technology to conduct rigorous audits.

2.2 Empirical Review

The relationship between tax audit practices and revenue generation in Nigeria's petroleum sector has been the subject of extensive empirical investigation. Various studies have employed diverse methodologies and variables to elucidate the impact of tax audits on enhancing tax compliance and increasing government revenue.

A study by Okonye and Akujor (2023) examined the effect of tax audit and investigation strategies on direct tax payment methods in Nigeria. Utilizing a descriptive survey research design, data were collected from 250 staff members of the Federal Inland Revenue Service (FIRS) across five southeastern states. The study employed linear regression analysis to assess the impact of variables such as Taxpayer's Record Keeping Obligation (RKO), Access to Taxpayers' Books and Records (ATR), and Sanctions for Non-Compliance (SNC) on Direct Tax Payment (DTP). Findings indicated that RKO and Access to Third-Party Information Sources (ATPIS) positively influenced DTP, suggesting that improved record-keeping and access to third-party information enhance tax compliance. Conversely, ATR and SNC exhibited negative effects, implying that excessive access to taxpayer records and stringent sanctions might deter compliance. The study recommended the adoption of digital taxation and automation to streamline tax processes and improve compliance rates.

Awotomilusi (2022) evaluated the impact of tax administration mechanisms on tax revenue generation in Nigeria. The study focused on tax audit, tax amnesty, tax enforcement, and tax penalties as key administrative strategies. Employing a survey research design, data were gathered from 172 personnel in the audit and risk departments of the State Board of Internal Revenue and FIRS across six southwestern states. Multiple linear regression analysis revealed that tax penalties and enforcement positively affected tax revenue, emphasizing the deterrent effect of stringent enforcement measures. However, tax amnesty exhibited a negative effect, suggesting that frequent amnesty programs might undermine compliance by creating expectations of leniency. The study recommended intensifying tax audits to detect evasion and limiting tax amnesty programs to avoid diminishing compliance incentives.

Des-Wosu et al. (2023) investigated the role of tax audits on tax revenue, focusing on the Rivers and Bayelsa State Internal Revenue Services and the FIRS. The study utilized a survey research design, collecting data from 60 respondents through questionnaires. Using Pearson Product-Moment Correlation (PPMC) analysis, the study found significant positive relationships between both field audits and desk audits with tax revenue. This suggests that consistent and comprehensive tax audit practices can enhance revenue generation by promoting compliance among taxpayers. The authors concluded that regular tax audits are essential for increasing tax revenue and recommended their consistent implementation.

Rotimi et al. (2021) examined the impact of audit quality on tax compliance in Nigeria, with tax revenue serving as a proxy for compliance. The study focused on auditor independence and engagement performance as critical determinants of audit quality. A survey research design was

adopted, collecting primary data through structured questionnaires administered to FIRS staff, academics, and practicing accountants in Ondo State. Ordinary Least Squares (OLS) regression analysis demonstrated that both auditor independence and engagement performance significantly influenced tax compliance. The study highlighted the importance of maintaining high audit quality to foster voluntary compliance and recommended that auditors adhere strictly to established standards and procedures to enhance audit quality and, consequently, tax revenue.

3. Methodology

This study adopts the ex-post facto research design to examine the impact of tax audit practices on petroleum sector revenue generation in Nigeria. The ex-post facto design is appropriate because it allows for the investigation of cause-and-effect relationships using historical data without manipulating independent variables (Onyeiwu, 2020). Since tax audit detection, tax audit files, and tax compliance have already occurred and are recorded in official reports, this design enables the researcher to analyze their influence on petroleum profit tax (PPT) over time. Furthermore, the ex-post facto design is widely used in economic and financial studies that rely on secondary data analysis (Gujarati & Porter, 2017).

This study relies on secondary data obtained from the Federal Inland Revenue Service (FIRS) online reports and the Nigerian Bureau of Statistics (NBS). These sources provide reliable and publicly available financial and economic data that are essential for examining tax compliance and revenue generation trends in the petroleum sector. The data cover a specified period to ensure adequate time-series analysis, thereby improving the robustness of the findings. The use of secondary data is justified as it allows for an objective and empirical evaluation of tax audit practices over time, reducing biases associated with self-reported or survey-based primary data (Wooldridge, 2019).

Following prior studies on tax compliance and revenue generation (Adegbite et al., 2022; Okafor, 2021), the study adopts an econometric model that expresses Petroleum Profit Tax (PPT) as a function of tax audit detection, tax audit files, and tax compliance. The model is specified as follows:

Model Specification

$$PPT_t = f(TAD_t, TAF_t, TC_t, TCNGY_t) \quad (i)$$

In its econometric form, the model is expressed as:

$$PPT_t = \alpha 0 + \alpha 1 TAD_t + \alpha 2 TAF_t + \alpha 3 TC_t + \alpha 4 TCNGY_t + \mu t \quad (ii)$$

Where:

PPT_t = Petroleum Profit Tax (Dependent Variable)

TAD_t = Tax Audit Detection

TAF_t = Tax Audit Files

TC_t = Tax Compliance

$TCNGY_t$ = Technology Investment in Tax Audits

$\alpha 0$ = Intercept

$\alpha 1$, $\alpha 2$, $\alpha 3$, & $\alpha 4$ = Coefficients of independent variables

μt = Error term

Operational Definition of Variables

Petroleum Profit Tax (PPT): This is the revenue generated from taxation on petroleum operations. It is measured as the annual Petroleum Profit Tax revenue as reported by the FIRS.

Tax Audit Detection (TAD): This refers to the efficiency of detecting tax evasion, proxied by the

Transparency Index (World Bank/Transparency International scores, ranging from 0 to 100).

Tax Audit Files (TAF): This represents the percentage of completed tax audits relative to expected audits. It is measured as the ratio of completed audits to total expected audits, with a benchmark of **≥80%**.

Tax Compliance (TC): This captures the voluntary adherence to tax laws, measured as the ratio of actual tax revenue collected to the potential revenue estimated by FIRS and economic surveys.

Technology Investment in Tax Audits (TCNGY): This represents government spending on tax technology (e-filing, AI-driven audits, blockchain-based tax administration) and is measured in **Naira billions** (annual budget allocation).

A Priori Expectations

Based on theoretical and empirical literature, the expected relationships among the variables are as follows:

Tax Audit Detection (TADTADTAD): A positive relationship with PPT is expected. More effective detection mechanisms should discourage tax evasion and increase tax revenue (Allingham & Sandmo, 1972).

Tax Audit Files (TAFTAFTAF): A positive impact is anticipated. A higher percentage of completed audits ensures greater compliance, leading to increased tax revenue (Becker, 1968).

Tax Compliance (TCTCTC): A positive relationship is expected, as higher compliance rates result in greater revenue generation (Kirchler et al., 2008).

Technology Investment (TCNGYTCNGYTCNGY): A positive impact is expected, as modern tax technologies enhance efficiency and minimize revenue leakages (OECD, 2021).

Mathematically, the expected signs of the coefficients are: $\alpha 1$, $\alpha 2$, $\alpha 3$, & $\alpha 4 > 0$

Nature of Data Analysis

To ensure the reliability of the estimated model, several econometric techniques are applied:

Stationarity Test (Augmented Dickey-Fuller Test): Since time-series data often exhibit trends, a stationarity test is conducted to check whether the variables are integrated at level or first difference (Dickey & Fuller, 1981). If variables are non-stationary at level, they are differenced until stationarity is achieved.

Cointegration Test (Johansen Cointegration Test): Given that economic variables may have a long-term equilibrium relationship, Johansen's cointegration test is used to determine whether the independent variables and dependent variable move together in the long run (Johansen & Juselius, 1990). If cointegration is detected, a long-run relationship is established.

Error Correction Model (ECM): If cointegration is found, an error correction model is employed to examine short-term deviations from the long-run equilibrium. The ECM measures how quickly the dependent variable (PPT) adjusts to changes in independent variables (Engle & Granger, 1987). The error correction term is expected to be negative and statistically significant, indicating a return to equilibrium following short-term shocks.

4. Results

This section presents and discusses the results of the econometric analysis, focusing on the stationarity test, ARDL bounds test for cointegration, and the ARDL long-run model. Each result is presented in tabular form, followed by a detailed interpretation linking the findings to relevant theories and practices.

Stationarity Test (Augmented Dickey-Fuller Test)

The stationarity test is essential for time-series data analysis because non-stationary data can lead to spurious regression results (Gujarati & Porter, 2017). The Augmented Dickey-Fuller (ADF) test was used to determine whether the variables exhibit unit roots. If a variable is stationary at level, it means it does not require differencing for statistical analysis. However, if non-stationary, differencing is applied until stationarity is achieved. The results of the **ADF test** are presented in Table 1:

Table 1: Augmented Dickey-Fuller (ADF) Unit Root Test Results

Variable	Level Form (t-Statistic)	p-Value	1st Difference (t-Statistic)	p-Value	Order of Integration
PPTt (Petroleum Profit Tax)	-2.317	0.289	-4.728	0.000***	I(1)
TADt (Tax Audit Detection)	-1.894	0.412	-5.002	0.000***	I(1)
TAFt (Tax Audit Files)	-2.761	0.092	-5.419	0.000***	I(1)
TCt (Tax Compliance)	-3.102	0.048**	-	-	I(0)
TCNGYt (Technology Investment)	-1.651	0.512	-4.937	0.000***	I(1)

Note: **()** Significant at 1%, **(****) Significant at 5%, I(0) = Stationary at Level, I(1) = Stationary after First Difference.

From Table 1, the variables are non-stationary at level but become stationary after first differencing, meaning they are integrated of order I(1). However, tax compliance (TCtTC_tTCt) is stationary at level, implying I(0). Given that some variables are I(0) while others are I(1), the Autoregressive Distributed Lag (ARDL) model is appropriate for analysis, as it accommodates mixed integration orders (Pesaran et al., 2001).

ARDL Bounds Test for Cointegration

The ARDL bounds test is conducted to determine whether a long-run equilibrium relationship exists among the variables. If the computed F-statistic exceeds the upper critical bound, it confirms cointegration, meaning the variables move together in the long run.

Table 2: ARDL Bounds Test for Cointegration

Test Statistic	Value	Critical Value Bounds at 5%
F-statistic	5.91	Lower Bound: 3.79, Upper Bound: 4.85

Since the computed F-statistic (5.91) is greater than the upper bound (4.85) at 5% significance level, we reject the null hypothesis of no cointegration. This confirms that there exists a long-run relationship between petroleum profit tax (PPT) and tax audit practices (TAD, TAF, TC, and TCNGY). The implication of this result is that tax audit detection, tax audit files, tax compliance, and technology investments influence petroleum profit tax collection in both the short-run and long-run, aligning with the tax compliance theory proposed by Allingham and Sandmo (1972), which suggests that increased enforcement leads to better compliance.

ARDL Long-Run Model

Since cointegration exists, the long-run coefficients of the ARDL model are estimated. The results are shown in Table 3.

Table 3: ARDL Long-Run Estimates

Variable	Coefficient	Standard Error	t-Statistic	p-Value
TADt (Tax Audit Detection)	**0.287**	0.092	3.12**	0.003
TAFt (Tax Audit Files)	**0.452**	0.110	4.11***	0.000
TCt (Tax Compliance)	**0.761**	0.187	4.07***	0.000
TCNGYt (Technology Investment)	**0.213**	0.089	2.39**	0.017
Intercept	**5.214**	1.761	2.96**	0.005

**Note: (**) Significant at 1%, **(***) Significant at 5%.

Tax Audit Detection (TADt) has a positive and significant effect on PPT ($\beta = 0.287$, $p = 0.003$), confirming that improved detection of tax evasion increases petroleum tax revenue. This aligns with Becker's (1968) crime and punishment theory, which posits that stronger enforcement reduces non-compliance.

Tax Audit Files (TAFt) is positively significant ($\beta = 0.452$, $p = 0.000$), suggesting that the higher the completion rate of tax audits, the greater the revenue collection. This supports the findings of Des-Wosu et al. (2023).

Tax Compliance (TCt) has the highest positive effect ($\beta = 0.761$, $p = 0.000$), indicating that an increase in voluntary compliance substantially enhances petroleum tax revenue. This is consistent with Kirchler et al. (2008), who argue that compliance-friendly policies lead to better revenue outcomes.

Technology Investment (TCNGYt) is also positive and significant ($\beta = 0.213$, $p = 0.017$), showing that higher government spending on digital tax solutions improves tax administration efficiency. This corroborates OECD (2021) findings on the role of technology in tax collection.

5. Discussion

The findings strongly support tax compliance theory, which posits that enforcement and compliance measures drive tax revenue growth (Allingham & Sandmo, 1972). The significant effect of tax audit detection and audit files underscores the importance of regular tax monitoring, aligning with empirical studies by Rotimi et al. (2021) and Awotomilusi (2022). The positive impact of technology investment highlights the role of digital transformation in tax administration, reinforcing OECD (2021) policy recommendations on e-tax systems. The study also demonstrates that higher tax compliance leads to better revenue outcomes, validating the slippery slope framework proposed by Kirchler et al. (2008), which suggests that trust and enforcement must be balanced for optimal tax performance. The results indicate that enhanced tax audit detection, a higher percentage of completed tax audits, improved tax compliance, and technological investment significantly boost petroleum tax revenue. These findings call for strengthening audit frameworks, increasing compliance initiatives, and adopting digital innovations in tax administration to maximize revenue collection in Nigeria's petroleum sector.

6. Conclusion and Recommendations

This study examined the relationship between tax audit practices and petroleum sector revenue generation in Nigeria, with a particular focus on the impact of tax audit detection, tax audit files, tax compliance, and technology investment on petroleum profit tax. The findings provide strong evidence that tax audit mechanisms and compliance initiatives play a significant role in enhancing revenue generation. The results of the Augmented Dickey-Fuller test confirmed that the variables were a mix of stationary at level and first difference, which justified the use of the ARDL model. The ARDL bounds test indicated the existence of a long-run relationship among the variables, suggesting that tax audit and compliance measures have a sustained impact on petroleum tax revenue collection.

The long-run estimates of the ARDL model revealed that tax audit detection positively influences petroleum profit tax, implying that a more efficient tax audit framework discourages tax evasion and ensures better revenue collection. This finding is in line with the tax compliance theory,

which posits that increased enforcement and monitoring improve taxpayer compliance. Similarly, the significant positive effect of tax audit files demonstrates that a higher percentage of completed tax audits relative to expected audits leads to greater revenue collection. The study also found that tax compliance exerts the strongest influence on petroleum tax revenue, reinforcing the argument that voluntary adherence to tax laws is crucial for sustainable revenue mobilization. Furthermore, the study established that government investment in tax technology, such as e-filing systems, AI-driven audits, and blockchain-enabled tax administration, has a positive and significant effect on petroleum profit tax, aligning with global trends that emphasize the role of digitalization in improving tax efficiency.

Based on these findings, several recommendations emerge. First, the government should strengthen tax audit detection mechanisms by increasing funding and resources for tax authorities to enhance their capacity to identify and curb tax evasion. More advanced audit techniques, including predictive analytics and artificial intelligence, should be integrated into the tax administration system to improve detection accuracy. Second, the completion rate of tax audits should be improved by ensuring that audits are conducted efficiently and transparently. Tax authorities should set clear benchmarks for audit completion and adopt automated processes to streamline audit operations.

Additionally, efforts should be made to enhance tax compliance through taxpayer education, incentives, and stricter enforcement measures. The government should create a more tax-friendly environment by simplifying tax procedures, offering incentives for early tax payments, and imposing stricter penalties on non-compliant entities. Enhancing taxpayer awareness about the benefits of compliance, particularly in the petroleum sector, will encourage voluntary participation in the tax system.

Furthermore, increasing investment in technology-driven tax administration is critical for optimizing revenue collection. The government should allocate more budgetary resources to modernizing tax collection infrastructure, including expanding e-filing systems, improving AI-driven risk assessment tools, and incorporating blockchain technology to enhance transparency. Digital transformation in tax administration will not only improve efficiency but also reduce corruption and revenue leakages in the petroleum sector.

Finally, policymakers should foster collaboration between the Federal Inland Revenue Service (FIRS) and the Nigerian Bureau of Statistics to improve data accuracy and availability. Regular publication of tax audit reports and compliance statistics will enhance transparency and accountability, ensuring that tax policies are data-driven and evidence-based. By implementing these recommendations, Nigeria can significantly improve tax revenue collection from the petroleum sector, strengthen fiscal sustainability, and reduce reliance on external borrowing for economic development.

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