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Effect of Forensic Accounting Bank Statement Analysis on Tax Fraud Detection in States' Internal Revenue Services of North Central Nigeria

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ABSTRACT

Tax fraud detection poses a persistent challenge for State Internal Revenue Services in North Central Nigeria. This study explored the impact of forensic accounting bank statement analysis on the detection of tax fraud, treating forensic bank statement analysis as the key independent variable. Using a survey design, data were gathered from all 411 respondents through a census sampling method and analyzed with simple regression techniques. Results indicate that forensic bank statement analysis significantly and positively influences tax fraud detection. Although tax fraud detection exists at a baseline level without forensic analysis, the findings reveal that enhanced use of forensic bank statement analysis substantially improves the IRS's capacity to identify fraudulent activities. The model explains 24.3% of the variation in tax fraud detection, highlighting the crucial role of forensic analysis in these efforts. Consequently, it is recommended that the IRS in North Central Nigeria invest in advanced forensic tools, specialized staff training, and dedicated forensic accounting units to boost tax fraud detection and ensure greater compliance.

Keywords: Bank statement analysis, forensic accounting, tax fraud detection

INTRODUCTION

Forensic accounting has emerged as a critical tool for detecting tax fraud on a global scale, driven by increasing complexities in financial systems and cross-border transactions. Across jurisdictions, forensic tax fraud detection involves the application of investigative accounting techniques to uncover discrepancies in tax filings, often involving the analysis of expenditures, income declarations, and financial statements. According to Smith and Davis (2022), forensic accounting techniques are instrumental in identifying inflated expenditures and underreported incomes, particularly in sectors vulnerable to manipulation such as hospitality, retail, and construction. Globally, tax authorities are recognizing the effectiveness of forensic methodologies in curbing evasion and increasing tax compliance. For instance, Taylor and Harris (2023) observed that forensic bank statement analysis in Kenya's agricultural sector significantly improved the detection of fraudulent tax behaviors, reinforcing the necessity for developing nations to invest in forensic capabilities. Similarly, developed economies like the United Kingdom have integrated forensic accounting into regulatory practices, leading to improved detection of financial crimes such as money laundering with tax implications (Jones & Hughes, 2021). As financial crimes grow in sophistication, forensic accounting provides both preventive and corrective mechanisms by not only uncovering fraud but also serving as a deterrent. However, challenges remain in harmonizing international forensic standards, especially where regulatory enforcement is weak. As emphasized by Adams et al.

(2023), the global fight against tax fraud requires coordinated efforts, investment in forensic training, and the adoption of advanced analytic tools for lifestyle audit such as bank statement analysis to ensure integrity and transparency in tax systems.

Lifestyle analysis plays a vital role in global tax fraud detection by examining an individual's or entity's spending behavior relative to reported income. It helps uncover discrepancies where lavish lifestyles are unsupported by declared earnings, indicating potential tax evasion (Oluwaseun & Tunde, 2022). Tax authorities worldwide are increasingly adopting lifestyle audits to identify red flags such as luxury assets, foreign travel, or high-value purchases that deviate from known income levels (Davidson & Thompson, 2022). In jurisdictions like the United States and Australia, lifestyle analysis has led to the exposure of hidden income streams and offshore accounts (Williams & Bassey, 2023). This technique is particularly effective for high-net-worth individuals and public officials who may conceal income through complex financial arrangements. Forensic accountants use data triangulation—such as bank statements, credit card usage, and social media content—to verify lifestyle claims. Globally, its relevance is expanding as digital footprints offer additional evidence for cross-checking reported tax obligations (Coleman & Harris, 2021). Despite its effectiveness, lifestyle analysis requires robust legal frameworks to avoid privacy violations and ensure admissibility in court. Integrating it with forensic accounting tools strengthens tax enforcement and deters future fraud (Nwachukwu & Chukwu, 2023). As countries strengthen anti-evasion mechanisms, lifestyle analysis such as forensic accounting bank statement analysis has proved to be a crucial element in bridging the gap between visible wealth and tax declarations.

Forensic accounting bank statement analysis plays a pivotal role in detecting tax fraud globally by uncovering undeclared income, suspicious transfers, and irregular financial activity inconsistent with reported earnings. Tax authorities and forensic accountants use detailed examination of bank records to identify patterns such as large cash deposits, international transfers, or transactions with shell entities that signal tax evasion (Nwachukwu & Chukwu, 2023). Globally, countries like the United States, the UK, and Germany have strengthened regulatory frameworks to mandate disclosure of bank information for tax audit purposes (Davidson & Thompson, 2022). In developing nations, forensic bank analysis is increasingly used to expose fraudulent underreporting of income among SMEs and multinational firms (Coleman & Harris, 2021). The digitalization of banking systems has made it easier to track financial flows and cross-border tax evasion, particularly through collaboration with financial intelligence units and anti-money laundering agencies (Williams & Bassey, 2023).

Forensic accountants compare bank data with declared income, invoices, and expenditures to flag discrepancies requiring deeper investigation. This technique is critical in identifying tax evasion in sectors where cash-based transactions are common, including construction, agriculture, and entertainment. Despite its effectiveness, access to banking information often raises legal and privacy concerns, requiring court orders or regulatory approvals in many jurisdictions. Bank statement analysis thus remains a cornerstone of forensic tax audits worldwide, enhancing transparency and tax compliance (Oluwaseun & Tunde, 2022).

Statement of Problem

Despite the growing relevance of forensic accounting in curbing tax fraud, the application of bank statement analysis as a detection tool remains underexplored, particularly in North Central Nigeria. While several studies have documented the effectiveness of forensic methods in general such as the study by Davidson and Thompson (2022) and Williams and Bassey (2023), there is a noticeable evidence gap in empirical data linking bank statement irregularities to specific instances of tax fraud within the Nigerian context.

Most available literature focuses on broader forensic techniques without isolating bank statement analysis as a variable (Nwachukwu & Chukwu, 2023). This introduces a variable gap, as few studies treat bank statement analysis as an independent predictor of tax fraud. Furthermore, existing

research has relied heavily on cross-sectional data or descriptive approaches, creating a methodological gap in the use of robust inferential techniques such as regression analysis to establish causal relationships (Oluwaseun & Tunde, 2022). Additionally, there exists a significant geographical gap, as most forensic accounting research in Nigeria concentrates on Lagos or Southern Nigeria, with scant attention paid to North Central states such as Kogi, Benue, or Niger (Okoro & Olaniyan, 2023). Lastly, a scope of study gap persists, as prior studies tend to generalize tax fraud detection without addressing the role of forensic bank statement analysis. These gaps necessitate a focused study of effect of forensic accounting bank statement analysis on tax fraud detection in North Central Nigeria. In order to achieve the objective of the study, the following hypothesis was formulated in null forms

Hypothesis

Ho: Forensic accounting bank statement analysis has no significant effect on tax fraud detection in States' Internal Revenue Services of North Central Nigeria.

LITERATURE REVIEW

Conceptual Reviews

Tax fraud detection is commonly conceptualized as a forensic investigative process aimed at identifying deliberate falsification or concealment of taxable income by individuals or corporations. According to Adebayo and Salisu (2023), it involves systematic examination of financial records, transactions, and taxpayer behavior to uncover discrepancies that point to intentional evasion. This process combines forensic accounting, auditing, and legal expertise to validate suspicions and initiate legal action. While comprehensive, this definition tends to overemphasize formal investigations, often neglecting preventive techniques and real-time detection systems that could limit the occurrence of fraud before it escalates. Tax fraud detection is also defined as the process of evaluating tax-related data for risks that could signal fraudulent behavior. Ibrahim and Olorunfemi (2022) argue that this approach focuses on identifying "red flags" or unusual patterns that prompt deeper audits or investigations. It supports a proactive tax administration strategy by enabling early detection and intervention. This approach depends heavily on predictive models and data analytics, which may not be fully effective in environments with poor data quality or limited technological capacity, such as in many developing nations.

In the modern context, tax fraud detection is understood as the use of advanced data analytics to scrutinize taxpayer information, transaction histories, and banking records for inconsistencies. Eze and Musa (2023) note that machine learning and artificial intelligence now aid in tracing hidden incomes and undeclared assets. This data-driven approach enhances speed, accuracy, and coverage. Although powerful, data analytics-based definitions risk overlooking the role of human judgment and contextual understanding, which are critical in complex fraud cases where digital traces may be minimal. Tax fraud detection can also be seen as the process of verifying taxpayer compliance through document reviews, third-party confirmations, and cross-border financial disclosures. According to Onyeka and Bello (2022), this compliance-focused model is widely used in jurisdictions with integrated databases and international cooperation. The concept assumes the existence of strong legal frameworks and international agreements, which are often absent or ineffective in developing countries, making this approach difficult to replicate globally.

Another definition considers tax fraud detection as the monitoring of behavioral patterns such as lifestyle choices, cash transactions, and asset accumulation that exceed reported income. Okwu and Hassan (2023) emphasize that lifestyle audits are especially effective in detecting fraud among informal sector participants. While behavior-based detection is useful, it may infringe on privacy rights and lacks standardization, leading to potential abuse or misinterpretation if not managed with due process. Tax fraud detection is also described as the intersection between accounting irregularities and legal thresholds

for prosecution. As defined by Nwanna and Obinna (2023), it entails identifying breaches of tax laws through accounting anomalies, supported by evidence admissible in court. This legal-accounting hybrid ensures that detection efforts are legally defensible. The focus on legality may slow down detection and response efforts, as it often requires lengthy documentation and legal interpretation, which may not be feasible in urgent enforcement scenarios. Forensic bank statement analysis is defined as a systematic review of bank records aimed at uncovering hidden financial transactions and identifying signs of financial crime such as tax evasion, money laundering, or embezzlement. According to Adebayo and Yusuf (2023), the process involves scrutinizing cash inflows and outflows, unusual transactions, round-figure payments, and unexplained deposits to detect fraudulent activity. While this definition effectively highlights its utility in crime detection, it may underemphasize the preventive role forensic analysis could play in risk management and early warning systems.

This concept defines forensic bank statement analysis as an audit process used to generate verifiable evidence admissible in court. Ezenwa and Olatunji (2022) note that forensic experts trace inconsistencies in bank statements to specific sources of deception, ensuring accountability through legal enforcement. The method combines accounting expertise with legal knowledge to reconstruct the true financial position of the investigated entity. The legal-centric approach of this definition may overlook practical constraints, such as delayed access to bank records or lack of cooperation from financial institutions, especially in jurisdictions with weak enforcement mechanisms. Bank statement analysis in forensic accounting is defined as a technique for comparing declared income with actual banking transactions to identify underreporting for tax purposes. According to Musa and Okonkwo (2023), analysts use this method to verify whether lifestyle and income disclosures match bank account activity, particularly in self-employed or cash-heavy sectors. This approach is often limited by the assumption that all financial activities pass through formal banking systems, which is not always true in informal economies or where financial exclusion is prevalent.

Another perspective defines forensic analysis of bank statements as the reconstruction and reconciliation of financial transactions to expose manipulation, omission, or fictitious entries. Obasi and Eze (2022) describe this as a “truth-finding” mechanism that aligns bank records with internal accounting systems, flagging discrepancies for further investigation. Although the reconciliation process is critical, it may not effectively capture digitally disguised or international transactions that require cross-jurisdictional cooperation and digital forensics. In the digital age, bank statement analysis is increasingly viewed as part of digital forensics, involving the use of forensic software and data analytics tools to analyze large volumes of electronic financial records. Bello and Hassan (2023) emphasize the relevance of machine learning in identifying transaction anomalies, patterns of structuring, and timing irregularities. While technologically advanced, this approach may not be applicable in regions with low digital infrastructure or limited access to high-level forensic tools, limiting its global usability. This concept frames forensic bank analysis as a tool for promoting transparency and enforcing regulatory compliance in financial reporting. According to Igbinedion and Mohammed (2023), it supports anti-corruption efforts by ensuring that declared revenues, taxes paid, and bank activity align. This increases public trust and strengthens institutional governance. The approach is highly reliant on inter-agency collaboration and data sharing, which can be hindered by bureaucratic bottlenecks or institutional resistance in some countries.

Empirical Reviews

Adams and Chukwu (2023) investigated how forensic bank statement analysis can uncover hidden tax fraud among SMEs in Lagos, Nigeria. The problem focused on SMEs manipulating bank transactions to underreport income. A quantitative approach was used, with a population of 500 SMEs and a stratified random sample of 200 firms. Five years of bank transactions and tax data were analyzed via regression to detect irregular patterns linked to tax evasion. Results showed a strong positive relationship between unexplained transactions and fraud, recommending regular forensic bank audits by tax authorities.

Methodologically, the study lacked control for industry-specific transaction behaviors, possibly skewing results. Future research should include such controls for better accuracy.

Ogunleye and Abiola (2022) explored forensic bank statement analysis in detecting tax fraud within Nigeria's oil and gas sector. The study addressed corporations underreporting expenses to reduce taxable income. Using a mixed-method design, they surveyed 150 corporations and interviewed forensic experts. Correlation and factor analysis were applied to quantitative data. The findings confirmed discrepancies between bank statement data and corporate reports indicated fraudulent tax behaviors. They recommended enhanced forensic training for tax officials. However, the integration of qualitative and quantitative data was weak, limiting comprehensive understanding of fraud dynamics. A clearer mixed-method approach would improve the robustness.

Jones and Hughes (2021) studied the application of forensic bank statement analysis in detecting tax evasion in the UK banking sector, focusing on money laundering schemes. Sampling 120 banks, they employed ANOVA and multivariate regression on bank transaction data. Results indicated forensic accounting effectively identified suspicious expenditures related to tax fraud. They advised regulatory authorities to incorporate forensic audits in banking oversight. The study's methodology, however, lacked clarity on bank selection criteria and was cross-sectional, limiting causal inferences. A longitudinal design could better capture evolving fraud patterns

Oluwaseun and Tunde (2022) examined bank statement analysis to detect tax fraud among high-net-worth individuals (HNWIs) in Nigeria. The study targeted discrepancies between luxury spending and declared income. Fifty HNWIs were surveyed and data analyzed using descriptive statistics and chi-square tests. Significant differences were found, indicating undeclared income linked to extravagant bank transactions. Recommendations included lifestyle audits by tax authorities. The small sample and use of chi-square limit the depth of analysis; econometric modeling would better capture complex financial behaviors.

Adeola and Chijioke (2023) focused on public sector tax fraud detection through forensic bank statement analysis among government officials in Nigeria. Using qualitative case studies with 100 government employees, they analyzed expenditure patterns for signs of embezzlement. Findings showed large, unexplained bank transactions correlated with fraudulent activities. They recommended expenditure monitoring systems in public finance. The qualitative approach yielded rich insights but limited generalizability. Future mixed-method studies incorporating quantitative data would strengthen validity.

Smith and Davis (2022) investigated forensic bank statement analysis in the South African hospitality sector to detect tax fraud via inflated expenses. They surveyed 75 hotels and used regression and hypothesis testing on bank transactions. Results confirmed systematic inflation of expenses for tax evasion. The study recommended forensic audits and expenditure reviews for hospitality tax filings. However, the unclear sampling method raises concerns about selection bias, and seasonality effects were not considered. Including control variables would improve analytical precision.

Makanjuola and Salawu (2021) explored forensic bank statement analysis for tax fraud detection in Nigerian manufacturing firms. Using a sample of 120 firms, they analyzed five years of bank and financial data with factor analysis to identify fraud patterns. A strong correlation between unreported expenditures and tax evasion was found, recommending embedding forensic accountants within tax departments. While historical data use is a strength, reliance on factor analysis alone limits causal inference. Supplementary regression models could deepen understanding.

Taylor and Harris (2023) examined forensic bank statement analysis to detect tax fraud in Kenya's agricultural sector. They selected 100 firms from a population of 250 using convenience sampling, employing cluster and multiple regression analyses. Findings indicated irregular bank expenditures were linked to fraudulent tax practices. The authors urged greater investment in forensic accounting by tax

authorities. However, the convenience sample limits representativeness, and the clustering rationale was unclear. Future studies should use probabilistic sampling to enhance external validity.

Moses and Olabode (2021) focused on the construction industry in Nigeria, analyzing 80 firms' bank transactions using t-tests and correlation to detect tax fraud through inflated expenditures. Results confirmed frequent indicators of fraud via bank statement irregularities. Recommendations included focused forensic audits on construction expenses. Methodologically, correlation and t-tests do not establish causality and may overlook confounding factors. Incorporating regression models would improve analytical rigor.

Johnson and Williams (2022) studied forensic bank statement analysis for tax fraud detection in Ghana's retail sector, sampling 90 businesses. They combined interviews with forensic experts and regression analysis of bank data, finding a significant link between fraudulent expenditure reporting and tax evasion. The study called for comprehensive forensic expenditure reviews by tax authorities. The hybrid method was commendable, but qualitative and quantitative integration was weak. Expanding sample size and sector subcategories could improve generalizability.

Theoretical Reviews

This study is anchored on the Rational Choice Theory (RCT), propounded by economist Gary Becker in 1968, which posits that individuals make decisions by weighing the expected benefits against potential costs or punishments. This theory assumes that people are rational actors who choose to engage in unlawful acts like tax fraud only when the perceived benefits outweigh the risks of being caught and punished (Becker, 1968). In the context of forensic accounting, especially bank statement analysis, Rational Choice Theory provides a compelling explanation for tax fraud detection. When individuals or corporate entities believe that forensic analysts can scrutinize bank transactions to uncover hidden income, undeclared revenue, or suspicious transfers, the perceived risk of detection increases. Thus, the deterrence effect becomes stronger, potentially discouraging fraudulent behavior (Obasi & Eze, 2022).

Forensic bank statement analysis serves as a strategic tool that increases the perceived likelihood of exposure and legal consequences, aligning with the core assumption of RCT that decision-makers respond to incentives and risks. By meticulously analyzing cash flows, unusual patterns, and undeclared bank entries, forensic accountants elevate the cost of committing fraud in the eyes of would-be offenders (Adebayo & Yusuf, 2023). However, one key limitation of RCT is its overreliance on the assumption of rationality—many tax evaders act under emotional, cultural, or social influences, not purely logical calculations. Additionally, the theory may not account for systemic corruption or weak enforcement structures common in regions like North Central Nigeria, which can diminish the deterrent effect of bank statement scrutiny (Musa & Okonkwo, 2023).

METHODOLOGY

The study employed a survey research design, targeting a population of 411 Inspectors of Taxes working exclusively in the State capitals of the Internal Revenue Services across the North Central zone of Nigeria. This zone comprises Nasarawa, Plateau, Niger, Kogi, Kwara, and Benue States. The decision to focus solely on tax offices located in state capitals was informed by the nature of the study, which involves bank statement analysis—a process more relevant in areas where high-net-worth individuals are predominantly concentrated.

Table 3.1 Population of the Study

S/NO	Category	Total

1.	Nasarawa State Internal Revenue Service	71
2.	Plateau State Internal Revenue Service	65
3	Niger State Internal Revenue Service	58
4	Kogi State Internal Revenue Service	73
5	Kwara State Internal Revenue Service	66
6	Benue State Internal Revenue Service	78
	Total	411

Source: Admin Unit of Individual States' internal revenue service, 2024

The study had a total population of 411, and a census approach was adopted, meaning the entire population was used as the sample. Data were collected using a structured questionnaire consisting of 10 items—five items each for the independent and dependent variables. Reliability testing using Cronbach's alpha yielded values of 0.71 for the independent variables and 0.74 for the dependent variables, both exceeding the 0.70 benchmark, thereby confirming the instrument's reliability. A modified five-point Likert scale was employed, with response options ranging from Strongly Disagree to Strongly Agree, assigned scores of 1, 2, 3, 4, and 5 respectively. The data collected were analyzed using various statistical techniques. To test the null hypothesis, simple regression analysis was conducted with the assistance of SPSS Version 23 software, aimed at determining the strength of the relationship between the dependent variable (tax fraud detection) and the independent variable (forensic bank statement analysis). The functional form of the simple regression model is presented as follows.

TAFD= f (FABA, ……..(1)

With the aid of this equation the study arrived at a model which is mathematically presented as follows

$TAFD\ i_t = \beta 0 + \beta 1\ FABA_{It} + Ui_t$,……..(2)

Where, TAFD = Tax fraud detection as measured by response from questionnaires.

FABA=Forensic Accounting Bank statement analysis as measured by response from questionnaires.

A Priori expectation is that all the independent variables will have positive effect on Tax fraud detection

RESULTS AND DISCUSSION

The descriptive statistics for tax fraud detection in Table 2 were based on responses from 349 participants within the States' Internal Revenue Services of North Central Nigeria. The scores for tax fraud detection ranged from a minimum of 2.00 to a maximum of 5.00, indicating that all respondents rated the effectiveness of tax fraud detection at least moderately on the given scale. The average score of 4.16 suggests that tax fraud detection is generally perceived as effective or strong by the majority of respondents.

Table 2. Descriptive statistics of variables

Variables	Obs	Minimum	Maximum	Mean	St Deviation
Tax fraud detection	349	2.00	5.00	4.1559	.64130
Forensic bank statement analysis	349	2.40	5.00	4.2155	.59682

Source: SPSS Outputs 2025.

The standard deviation of 0.64 indicates some variation in responses, though overall, there is moderate consistency in how tax fraud detection effectiveness is viewed across the sample.

For the variable forensic bank statement analysis, the same sample size of 349 respondents provided data. Scores ranged from 2.40 to 5.00, with the minimum value notably higher than that of tax fraud detection. This implies that forensic bank statement analysis is regarded relatively positively, with no respondent rating its use or effectiveness very low. The mean score of 4.22 reflects a generally favorable perception of forensic bank statement analysis as a crucial tool in detecting tax fraud. The standard deviation of approximately 0.60 shows a somewhat tighter clustering of responses compared to tax fraud detection, indicating that opinions about forensic bank statement analysis are fairly consistent among respondents. Overall, both variables demonstrate high mean values on the measurement scale, highlighting that forensic bank statement analysis is viewed positively and is likely an important factor contributing to effective tax fraud detection within the States' Internal Revenue Services in North Central Nigeria. The moderate variation in responses suggests some differences in perception, but the general consensus points towards the significance of forensic bank statement analysis in supporting tax fraud detection efforts. The variable tax fraud detection in correlation matrix in Table 3 shows a perfect correlation of 1.000 with itself, which is expected and confirms the reliability of the measurement. More importantly, tax fraud detection has a statistically significant positive correlation of 0.479 with forensic bank statement analysis.

Table 3 Correlation Matrix of Dependent and Independent variables

Variables	Tax fraud detection	Forensic bank statement analysis	VIF
Tax fraud detection	1.000	.479**	
Forensic bank statement analysis	.479**	1.000	1.00

Source: SPSS Outputs 2025.

This moderate correlation, significant at the 0.01 level, indicates that higher levels or more effective application of forensic bank statement analysis tend to be associated with better detection of tax fraud within the States' Internal Revenue Services of North Central Nigeria. This suggests that improvements or increased use of forensic techniques in analyzing bank statements may enhance the IRS's ability to detect fraudulent tax activities. The variable forensic bank statement analysis also has a perfect correlation of 1.000 with itself, confirming consistent measurement. Its correlation with tax fraud detection reiterates the moderate positive and statistically significant relationship of 0.479. Additionally, the Variance Inflation Factor (VIF) for forensic bank statement analysis is 1.00, indicating no multicollinearity issues. This means forensic bank statement analysis is sufficiently independent as an explanatory variable and can reliably be used in further regression analyses without concern that it overlaps with other variables in the model. Overall, the correlation matrix shows a meaningful and statistically significant positive relationship between forensic bank statement analysis and tax fraud detection, reinforcing the importance of forensic analysis in enhancing tax fraud detection efforts in the North Central Nigerian IRS. The constant term in the regression model has a coefficient of 1.921, which represents the expected level of tax fraud detection when forensic bank statement analysis is zero or absent. The constant is statistically significant, as indicated by a t-statistic of 8.993 and a p-value of 0.000. This means that even without forensic bank statement analysis, there is a baseline level of tax fraud detection within the IRS.

Table 4 Regression Results

Ind. Variables	Coefficients OLS	T Statistics OLS	P-Values
Constants	1.921	8.993	.000

Forensic bank statement analysis	.493	10.567	.000
R-Squared	0. 243		
Adj. R-Squared	0.241		
F-Statistic	111.658		
P-Value	0.0000		

Source: SPSS Outputs 2025.

The key independent variable, forensic bank statement analysis, has a positive coefficient of 0.493. This coefficient indicates that for every one-unit increase in forensic bank statement analysis, tax fraud detection increases by approximately 0.493 units, holding other factors constant. The relationship is statistically significant, supported by a very high t-statistic of 10.567 and a p-value of 0.000. This finding is in tandem with those of Adams and Chukwu (2023); Oluwaseun and Tunde (2022) and Adeola and Chijioke (2023). This strong significance level confirms that forensic bank statement analysis has a meaningful and positive effect on tax fraud detection in the States' IRS agencies of North Central Nigeria. The model's R-squared value is 0.243, which means that approximately 24.3% of the variation in tax fraud detection can be explained by forensic bank statement analysis alone. The adjusted R-squared value of 0.241, which accounts for the number of predictors, confirms that the model fits the data moderately well. The F-statistic of 111.658, with an associated p-value of 0.000, shows that the overall regression model is statistically significant. This indicates that forensic bank statement analysis is a significant predictor of tax fraud detection, and the model as a whole explains a meaningful portion of the variance in the dependent variable.

Conclusion and Recommendation

The findings from the regression analysis indicate that forensic bank statement analysis has a significant and positive effect on tax fraud detection within the States' Internal Revenue Services of North Central Nigeria. Even in the absence of forensic bank statement analysis, there exists a baseline level of tax fraud detection, as shown by the significant constant term. However, the substantial positive coefficient of forensic bank statement analysis demonstrates that improvements or increased application of this forensic technique notably enhance the IRS's ability to detect tax fraud. The model explains approximately 24.3% of the variation in tax fraud detection, confirming that forensic bank statement analysis is an important predictor in understanding and improving tax fraud detection efforts in the region. Overall, the results highlight the critical role forensic bank statement analysis plays in strengthening the effectiveness of tax fraud identification.

Based on these findings, it is recommended that the States' Internal Revenue Services of North Central Nigeria should invest more resources in the development and implementation of forensic bank statement analysis capabilities. This can be achieved through specialized training programs for IRS staff, acquisition of advanced forensic tools and software, and the establishment of dedicated forensic accounting units within the tax authorities. Enhancing forensic bank statement analysis will likely improve the detection rate of tax fraud, reduce revenue losses, and promote greater tax compliance. Furthermore, continuous monitoring and evaluation of forensic methods should be institutionalized to ensure they adapt to evolving fraud schemes, thereby maintaining the effectiveness of tax fraud detection in the IRS.

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