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Sequence of Manuscript

I. Title page
II. Abstract (150-250 words)
III. Keywords (3-5)
IV. Introduction
V. Literature Review
VI. Methodology
VII. Results and Discussion
VIII. Conclusion and Recommendations
IX. References (APA 7th Edition)
X. Appendices (if necessary)
XI. Author Biographies (optional)

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IMPACT OF FORENSIC ACCOUNTING STRATEGIES ON FINANCIAL PERFORMANCE TRENDS OF QUOTED OIL AND GAS FIRMS IN NIGERIA

INEBARATON-PREYE PERE-ERE PETRICE
MUSA ADEIZA FAROUK
BUBA AUDU

ABSTRACT

The study examined the impact of forensic accounting strategies on financial performance trends of quoted oil and gas firms in Nigeria. The study adopted an ex-post facto research design, using secondary data spanning from 2015 to 2024. Three null hypotheses were formulated and tested at a 0.05 level of significance. The study was anchored on the Fraud Triangle Theory, and ordinary least squares (OLS) regression analysis was employed to examine the relationships. The findings revealed that fraud detection rate, regulatory compliance score, and audit quality index had no statistically significant impact on financial performance trends, although varying positive and negative relationships were observed. Based on these results, it is recommended that quoted oil and gas firms adopt more proactive, integrated, and technology-driven forensic accounting measures to strengthen fraud detection, enhance regulatory compliance, and improve financial performance.

Keywords: Appraisal Forensic Accounting Strategies, Financial Outcomes, Fraud Detection Rate, Regulatory Compliance Score, Audit Quality Index

1.0 Introduction

The sector's intricate fiscal and legal frameworks, coupled with the opacity in revenue flows, create fertile ground for fraudulent activities that often go undetected or unpunished. This underscores the need for a more robust and proactive financial oversight mechanism. Forensic accounting has emerged as a potent strategy to address these deficiencies by applying investigative skills, audit expertise, and legal knowledge to detect and prevent financial irregularities (Obiora, et al., 2022). According to the Institute of Internal Auditors (IIA, 2019), no nation or industry is immune to fraud, hence the growing call for organizations—especially those in high-risk sectors like oil and gas—to adopt forensic accounting strategies as part of their financial governance systems.

Fraud remains a pervasive challenge across global business environments, and its impact on sectors like oil and gas is especially alarming due to the massive financial flows and complex governance structures involved (Hashim et al., 2020). Financial fraud has recently caused the collapse of once-great businesses like Enron, WorldCom, Tyco, Parmalat, Global Crossing, Lehman Brothers, and Texaco, to name a few. The reality in Nigeria's oil and gas industry sharply contrasts with these ideals. Despite being a major contributor to the nation's revenue, the sector is plagued by persistent financial irregularities, weak internal controls, and systemic corruption. Notable impact of these consequences is the recession of 2009. Between 2014 and 2018, there was a notable increase of 356 percent in reported fraud cases in Nigeria, according to the Nigeria Deposit Insurance Corporation (NDIC), and a 224 percent increase in financial loss from fraud among financial institutions (Salawu, 2019).

Even though fraud has existed historically, it could be argued that most businesses now face greater fraud risks than they did in the past. Business interests are seriously threatened by fraud. The risk of fraud is becoming a greater concern for companies. Those who have endured and suffered include business executives and organizations involved in the oil and gas industry. According to the Extractive Industries Transparency Initiatives [EITI] (2013), fraud, theft, and corruption cost Nigeria's oil industry an estimated 300,000 barrels of crude oil per day, or 11 billion dollars (1.8 trillion Naira) annually. In a similar vein, the Nigerian National Petroleum Corporation (NNPC), which oversees the administration of the country's oil and gas industry, revealed in 2021 that, excluding other fraudulent activities, the nation lost over 200,000 barrels of crude oil per day to theft, totaling $13 million.

Previous efforts to introduce transparency mechanisms and regulatory reforms have achieved limited success, largely due to the poor implementation of forensic strategies, weak compliance culture, and ineffective audit practices (Hashim et al., 2020, Abdullahi & Manar, 2018; Usman, 2011). Empirical evidence further suggests that key elements of forensic accounting are either underutilized or improperly applied, thereby limiting their potential to influence positive financial outcomes. Despite growing academic interest in forensic accounting and fraud risk management, most existing studies have concentrated on the banking and financial sectors, with limited research addressing quoted oil and gas firms in Nigeria—arguably the nation's most economically significant and fraud-prone sector (Okoye et al., 2019).

Also, while some studies have examined individual components of forensic accounting, such as audit tenure or fraud detection technologies, there remains a gap in integrated assessments of how forensic accounting strategies collectively influence financial outcome trends in this sector. This study, therefore, seeks to bridge this gap by appraising the combined effect of fraud detection rate, regulatory compliance score, and audit quality index on the financial outcomes of selected Nigerian oil and gas companies over a defined period of 2015 to 2024. To achieve the objective of the study, the hypotheses below were formulated in null form:

$H0_1$: Fraud detection rate has no significant effect on financial outcome trends in Nigeria's Oil and Gas Industry.
$H0_2$: Regulatory Compliance Score has no significant effect on financial outcome trends in Nigeria's Oil and Gas Industry.
$H0_3$: Audit Quality Index has no significant effect on financial outcome trends in Nigeria's Oil and Gas Industry.

2.0 Literature Review

2.1 Conceptual Review

2.1.1 Forensic Accounting Strategies

Forensic accounting strategies refer to the application of specialized investigative, auditing, and analytical techniques to financial records to uncover evidence of fraud, misappropriation, and other financial crimes (Obiora, et al., 2022). These strategies encompass fraud detection, regulatory compliance monitoring, litigation support, and audit quality enhancement. Ukoma (2019) asserts that forensic auditing significantly strengthens cash management systems and internal controls, thereby enhancing financial accountability. Similarly, Aderemi, Adebayo, and Oluwaseun (2022) emphasize that fraud risk management techniques—integrating internal control, whistleblowing, fraud awareness/training, and responsive mechanisms—effectively reduce operational losses. While both studies highlight the positive effects of forensic techniques, Ukoma (2019) focuses more on internal bank processes, whereas Aderemi et al. (2022) extend the scope to the oil and gas sector, demonstrating contextual differences. However, a limitation in these studies is the reliance on survey and ANOVA methods, which may not fully capture dynamic financial transactions over time.

2.1.2 Fraud Detection Rate

Fraud Detection Rate (FDR) measures the proportion of detected fraud cases relative to the total number of fraudulent activities within a given period (Ukoma, 2019). A high FDR indicates a proactive and effective monitoring system that enhances transparency and accountability. Obiora et al. (2022) argue that advanced forensic auditing and internal controls can significantly improve FDR in high-risk sectors. Contrastingly, Anyaebosi (2024) highlights that machine learning models, such as Random Forest, can further enhance fraud detection, yet face limitations due to class imbalance, potentially leading to false negatives. Methodologically, traditional survey-based approaches may overlook such computational insights, suggesting a need for integrating technology-driven strategies.

2.1.3 Regulatory Compliance Score

Regulatory Compliance Score (RCS) reflects the extent to which a firm adheres to financial, legal, and ethical standards set by regulatory authorities (Obiora et al., 2022). A high RCS indicates strong governance and public trust, particularly vital in Nigeria's oil and gas sector due to the socio-economic and environmental implications of operations. Empirical studies show that firms with higher compliance levels demonstrate better operational efficiency and financial outcomes (Ogiriki & Boubai, 2025). However, limitations exist in many studies, such as the exclusion of firms with regulatory issues, which may bias the findings toward compliant organizations, leaving the impact of non-compliance underexplored.

2.1.4 Audit Quality Index

The Audit Quality Index (AQI) quantifies the degree to which an audit conforms to professional standards, reflecting reliability, thoroughness, and credibility (Anyaebosi, 2024). High-quality audits are essential for detecting misstatements, ensuring accurate financial reporting, and safeguarding stakeholders' interests in complex sectors like oil and gas. Abdulsalam and Moshud (2022) note that while audit quality is theoretically linked to financial performance, factors such as auditor tenure and firm type may not significantly affect outcomes, suggesting that contextual application and integration with other forensic techniques are crucial. This contrasts with studies emphasizing audit diligence alone, highlighting the need to critically assess how audit practices are operationalized in practice.

2.1.5 Financial Outcome Trends in Nigeria's Oil and Gas Industry

Financial outcome trends (FOT) represent patterns in key performance metrics, including profitability, return on investment (ROI), cost efficiency, and revenue generation over time (Obiora et al., 2022). These trends provide insights into how firms respond to market changes, manage resources, and comply with regulatory standards. Evidence from Aderemi et al. (2022) and Ukoma (2019) suggests that effective forensic accounting strategies—through fraud detection, regulatory compliance, and quality audits—can positively influence financial outcomes by minimizing losses and improving resource management. Nevertheless, the literature reveals gaps in longitudinal analyses and sector-specific empirical studies, particularly for quoted oil and gas firms, underscoring the need for comprehensive research that integrates both traditional and technological forensic approaches.

2.2 Theoretical Review

2.2.1 Fraud Triangle Theory (FTT)

One of the most widely used frameworks for comprehending the fundamental elements that lead to fraudulent behavior within organizations is the Fraud Triangle Theory (FTT), which was created by criminologist Donald Cressey in the 1950s. According to Cressey, pressure, opportunity, and rationalization are the three essential components that someone needs in order to commit fraud. Pressure is the term used to describe the incentive or motivation to commit fraud, such as personal greed, unfulfilled performance goals, or financial difficulties. When internal controls are lacking or ineffective, there is an opportunity for a potential fraudster to take advantage of weaknesses without being discovered right away. The mental process through which people defend their immoral behavior—often persuading themselves that it is required, innocuous, or well-deserved—is known as rationalization. The circumstances outlined by the Fraud Triangle Theory are especially pertinent to Nigeria's oil and gas sector, which has enormous financial resources and intricate operational details. There are many opportunities for fraudulent activities in this sector because of systemic corruption, regulatory lapses, and limited transparency. Therefore, forensic accounting techniques like fraud detection, enforcing regulatory compliance, and conducting thorough audits are crucial in reducing these risks. By fortifying internal controls and improving accountability mechanisms, proactive fraud risk management and forensic interventions aid in the dismantling of one or more components of the fraud triangle, especially opportunity, as endorsed by Ukoma (2019) and Aderemi, et al., (2022). The Fraud Triangle Theory provides a solid theoretical framework for assessing how well forensic accounting techniques work to prevent fraud and enhance financial outcomes in Nigeria's oil and gas industry. Hence, the study is anchored on Fraud Triangle Theory.

2.2.2 Agency Theory

Jensen and Meckling (1976) introduced the concept of agency theory, which examines the principal-agent relationship in which a principal (e.g., owners or shareholders) assigns decision-making authority to an agent (e.g., managers or executives). The theory is predicated on the idea that agents might not always behave in the principals' best interests because of differences in their objectives, risk tolerance, or information availability. When the agents have more information than the principals (information asymmetry), this conflict of interest frequently leads to agency issues like financial misreporting, asset theft, and a lack of transparency. Agency Theory is especially pertinent to Nigeria's oil and gas sector because of the country's high rate of financial irregularities, lax governance, and opaque business practices. Regulatory compliance frameworks, fraud detection systems, and audit quality improvement are examples of forensic accounting tactics that act as monitoring instruments to match the interests of the principals and agents Because it aims to motivate business managers to adopt financial integrity and accountability measures—such as fraud detection, compliance, and audit quality—that stakeholders believe are essential for protecting resources, improving transparency, and reducing financial and reputational risks, this theory thus served as the foundation for the study's discussion of forensic accounting strategies.

2.3 Empirical Review

Scholarly investigations on forensic accounting, audit quality, and fraud risk management in Nigeria's oil and gas sector present mixed findings on their influence on financial performance. For instance, Ogiriki and Boubai (2025) explored the relationship between Environmental, Social, and Governance (ESG) disclosures and financial performance using Return on Equity (ROE) as the benchmark. Their study, based on secondary data from eight oil and gas firms between 2019 and 2023, found that while environmental disclosure had a weak and statistically insignificant effect on ROE, governance and social disclosures were significantly and positively related to performance. This finding suggests that governance structures and social responsibility initiatives enhance shareholder value. However, the study's reliance on correlation analysis without controlling for endogeneity limits causal inference, thereby raising concerns about whether governance factors truly drive profitability or merely co-exist with stronger firms.

In contrast, Abdulsalam and Moshud (2022) focused specifically on audit quality, examining how auditor type and tenure influenced financial performance in

Nigerian oil and gas marketing companies. Using ex-post facto and longitudinal designs with regression analysis, their results indicated no significant association between audit quality proxies and firm performance. This outcome challenges the conventional wisdom that reputable audit firms or longer audit tenure inherently guarantee better financial outcomes. Yet, the methodological choice of relying solely on auditor characteristics—without incorporating broader forensic strategies—limits the generalizability of their conclusions. Compared with Ogiriki and Boubai (2025), who emphasized governance-related disclosures, Abdulsalam and Moshud (2022) highlight the limitations of structural audit variables in influencing performance, suggesting a gap between compliance-driven audit measures and effective fraud detection mechanisms.

Other scholars have examined forensic auditing more directly. Obiora et al. (2022) investigated the application of forensic auditing services alongside corporate social responsibility (CSR) practices among quoted oil and gas firms. Their findings indicate that forensic auditing strengthens accountability and fraud elimination, while socially responsible firms tend to achieve higher profitability. The study's dual focus on forensic auditing and CSR broadens the discussion beyond compliance to ethical business practices. However, its conceptual orientation, with limited empirical testing, reduces the robustness of the conclusions. In comparison, Aderemi et al. (2022) provide stronger empirical evidence by using ANOVA to test the impact of fraud risk management techniques—including internal controls, whistleblowing, and training—on fraud reduction. Their results showed that these techniques significantly curbed fraudulent activities, though computer forensics had an unexpected negative effect, possibly due to inadequate implementation or staff resistance. Unlike Obiora et al. (2022), who emphasized ethical and disclosure practices, Aderemi et al. (2022) demonstrate how specific operational measures translate into tangible fraud reduction, though their small sample size (106 staff) raises concerns about representativeness.

Taken together, these studies reveal three key insights. First, governance-related disclosures (Ogiriki & Boubai, 2025) and CSR practices (Obiora et al., 2022) appear to enhance firm reputation and shareholder trust, though their direct effect on financial outcomes remains debatable. Second, audit quality variables such as auditor type and tenure (Abdulsalam & Moshud, 2022) seem insufficient predictors of performance in the Nigerian oil and gas context, contradicting assumptions drawn from Western literature. Third, fraud risk management techniques (Aderemi et al., 2022) provide practical and operational evidence of fraud reduction, but methodological limitations in sample size and scope constrain their generalizability. Collectively, the literature underscores a fragmented understanding of how forensic accounting strategies influence financial performance trends in Nigeria's oil and gas sector. This creates a gap for further research that integrates forensic auditing, fraud detection mechanisms, compliance measures, and governance structures into a holistic model, while adopting longitudinal and multi-method approaches to strengthen causal inference.

3.0 Methodology

The research design employed in this study is the ex-post facto research design, in order to establish a relationship between green forensic accounting strategies and financial outcome trends in Nigeria's of oil and gas companies. This study was treated as ex-post facto research since it relied on historical data. This is appropriate because ex-post facto research aims at measuring and establishing the relationship between one variable and another or the effect of one variable on another, in which the variables involved are not manipulated by the researcher (Kothari & Garg, 2014). The population of this study consists of staff in the auditing and accounting department of the eleven (11) oil and gas companies listed on the Nigerian Exchange Group as at 31st December, 2024. They include; Japaul Oil & Maritime Services Plc, Oando Plc, Beco Petroleum Products Plc, Capital Oil Plc, Conoil Plc, Rak Unity Petroleum Plc, Eterna Plc, Forte Oil Plc, Mobil Oil Plc, MRS Oil Nigeria Plc and Total Nigeria Plc. A sample of the 54 respondents, from six (Capital Oil Plc, Conoil Plc, Mobil Oil Plc, Total Nigeria Plc, Forte Oil Plc and Japaul Oil & Maritime Services Plc) oil and gas companies were used. The study adopted a quantitative research approach relying exclusively on secondary data sources. For the independent variable—forensic accounting strategies, proxied by fraud detection rate, regulatory compliance score, and audit quality index—data were obtained from the published annual reports of quoted oil and gas firms and relevant regulatory reports between 2015 and 2024. The dependent variable—financial performance trend—was proxied by annual revenue generated from the oil and gas sector, as reported in the Central Bank of Nigeria's Statistical Bulletin within the same period. Data were gathered from the published financial statements of the six companies from 2015-2024. The reason for the choice of this time frame is availability of published annual report and accounts of the selected companies. The data analysis for the study took the form of descriptive statistics and inferential statistics. This research work adopted the ordinary least square (OLS) regression analysis with using E-views 9 statistical software.

Model of Specification

The functional form of the model used in this study is specified as follows:

Financial Outcome trend =Forensic Accounting Strategies
(FOT) = f(FAS)
FOT=(TRR)
FAS= (FDR, RCS, AQI)

From Model 1, the econometric equation is stated thus:
$TRR_t = \beta_0 + \beta_1 FDR_t + \beta_2 RCS_t + \beta_3 AQI_t + \mu_t$---------- 1
Where: β_0= intercept; $\beta_1 - \beta_3$ = coefficient of parameters for FDR, RCS, AQI respectively.

Table 1: Definition of Variable

Variable Name	Type of Variable	Symbol	Definition/Proxy
Total Revenue Received	Dependent	TRR	This is measure by the total revenue received from Oil and Gas industry.
Fraud Detection Rate	Independent	FDR	Measured as the number of fraud cases detected divided by the total number of fraud incidents reported or uncovered during a specific period.
Regulatory Compliance Score	Independent	RCS	Measured as the number of regulatory requirements met divided by the total number of applicable regulatory requirements within a given reporting period.
Audit Quality Index	Independent	AQI	Measured as the number of audit standards fully complied with divided by the total number of applicable audit standards during the audit engagement.

Researcher's Compilation (2025)

4.0 Result and Discussion

Table 2: Descriptive Statistics of Focused Variable

	TRR	FDR	RCS	AQI
Mean	1020.136	0.598000	0.761000	0.852000
Median	1099.890	0.550000	0.765000	0.855000
Maximum	1450.710	0.880000	0.910000	0.990000
Minimum	558.0800	0.410000	0.620000	0.720000
Std. Dev.	315.8662	0.150614	0.091827	0.102394
Skewness	-0.222503	0.807267	-0.002523	0.021575
Kurtosis	1.652531	2.485496	1.947950	1.517770
Jarque-Bera	0.839043	1.196431	0.461181	0.916195
Probability	0.657361	0.549792	0.794065	0.632486
Sum	10201.36	5.980000	7.610000	8.520000
Sum Sq. Dev.	897942.9	0.204160	0.075890	0.094360
Observations	10	10	10	10

Source: E-views (2025)

From Table 2, the mean of TRR is 1020.136 indicting the average level of revenue generated across the sampled Oil and Gas company. The table also showed that the standard deviation of TRR across the Oil and Gas companies is 315.866. This indicates a low variability around the mean. The average FDR as indicated by Table 2 is 0.598000. The standard deviation is 0.150614 indicating a very low variability among the variables.

The mean of RCS across oil and gas companies is also shows that the mean profitability as indicated by the mean is 0.761000, while the standard deviation is 0.091827. This implies that the level of RCS among the Oil and Gas firms is widely spread. The Table further shows that the mean for AQI is 0.852000 indicating the average AQI across the sampled Oil and Gas firms and the standard deviation of 0.102394.

Regression Diagnosis

Various robustness tests were conducted in order to improve the validity and reliability of data used which is critical for derivation of statistical inferences from the findings of the study. These tests include: Test for Normality, Multicollinearity, Homoskedasticity

Test for Normality

The normality of the distribution of the data series is shown by the coefficients of Skewness and Kurtosis coefficients. The skewness coefficients which are less than or around figure one in all the variables under study. The kurtosis coefficient also provides a second level of confirmation that all the explanatory variables are normally distributed with a Kurtosis.

Homoskedasticity Test

Breusch-Pagan/Cook-Weisberg test for heteroscedasticity was performed to test whether the variance of the errors from the regression is dependent on the values of the independent variables. The rule is that there is no heteroskedasticity in the model when the chi-square p-value is greater than 0.05.

Table 3: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.636507	Prob. F(3,6)	0.1441
Obs*R-squared	5.686407	Prob. Chi-Square(3)	0.1279
Scaled explained SS	1.137290	Prob. Chi-Square(3)	0.7681

The output presented in the table 3 above show that the f-statistic value of 2.63 which has a Chi-Square p-value of 0.1441 which is greater than the 0.05. This implies that there is no heteroskedasticity.

Table 4: Correlation Matrix

	TRR	FDR	RCS	AQI
TRR	1			
FDR	0.70	1		
RCS	-0.35	-0.43	1	
AQI	-0.55	-0.72	0.46	1

Source: E-VIEWS Output (2025).

The correlation matrix shows the relationship between each pair of variables. The relationship between each independent variable and the dependent variable are expected to be strong while the relationship between each pair of independent variables is expected to be low. This is because, according to Gujarati and porter (2009), a correlation coefficient between two independent variables above ± 0.8 is considered excessive and may indicate the existence of multicollinearity. However, Table 4 shows that all the correlation coefficient between the pairs of the independent variables is less than 0.8, thus, suggesting that the three independent variables can be well fitted into one regression model.

The correlation matrix table revealed that the correlation coefficient between TRR and FDR is 0.70. The correlation matrix also shows that the correlation coefficient between TRR and RCS is -.35. The result shows that the correlation coefficient between AQI and TRR is -0.55.

Testing Hypothesis

Table 5: Regression Analysis on the effect of FRD, RCS AQI on TRR

Dependent Variable: TRR
Method: Least Squares
Date: 06/22/25 Time: 09:53
Sample: 2015 2024
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	483.8364	1673.364	0.289140	0.7822
FDR	1353.860	890.1176	1.520990	0.1791
RCS	-135.7998	1124.952	-0.120716	0.9079
AQI	-199.4893	1328.045	-0.150213	0.8855

R-squared	0.507937	Mean dependent var	1020.136
Adjusted R-squared	0.261905	S.D. dependent var	315.8662
S.E. of regression	271.3684	Akaike info criterion	14.33401
Sum squared resid	441844.8	Schwarz criterion	14.45504
Log likelihood	-67.67003	Hannan-Quinn criter.	14.20123
F-statistic	2.064517	Durbin-Watson stat	1.966174
Prob(F-statistic)	0.02144		

Source: E-views Output (2025)

From the regression results, the model validity was established with an overall p-value of 0.021, confirming statistical significance. The R-squared value of 50.7% indicated that the explanatory variables jointly accounted for just over half of the variation in financial outcome trends, while the F-statistics of 2.06 further confirmed the model's fitness. However, when the individual explanatory variables were examined, their effects were found to be statistically insignificant, warranting deeper exploration.

The Fraud Detection Rate had a positive coefficient of 1353, but with a p-value of 0.1791, its effect on financial outcomes was not significant at the 5% threshold. This suggests that fraud detection mechanisms, though conceptually important, may not independently translate into measurable financial improvements within Nigeria's oil and gas industry. One plausible explanation is that fraud detection alone addresses symptoms rather than root causes of financial leakages. Without integration into broader risk management and governance frameworks, detection measures may only expose irregularities without ensuring recovery of losses or prevention of future occurrences. This divergence from Ukoma (2019), who found significant impacts of forensic auditing in the banking sector, highlights industry-specific differences. The oil and gas sector, characterized by complex value chains and high regulatory exposure, may require more holistic approaches beyond detection, as supported by Aderemi et al. (2022).

Similarly, Regulatory Compliance Scores had a negative coefficient of -135.79 with a p-value of 0.90, showing no significant effect on financial outcome trends. While prior studies (e.g., Obiora et al., 2022) argued that compliance and ethical transparency enhance performance, the present result suggests otherwise in this sectoral context. A possible reason is the limited variation in compliance practices among firms—most operators comply primarily to meet minimum statutory requirements rather than as part of value-creating strategies. Moreover, delays between compliance implementation and observable financial

impacts may have further obscured significant relationships in the short run. Thus, while compliance may be necessary, it may not be sufficient to drive immediate financial performance gains in this industry.

For the Audit Quality Index, the regression produced a negative coefficient of -199.48 with a p-value of 0.88, indicating no significant effect on financial outcomes. This finding resonates with Abdulsalam and Moshud (2022), who reported no strong relationship between audit firm characteristics and financial performance in the oil and gas sector. A possible explanation is that audit quality, while central to accountability, is often undermined by weak enforcement, limited independence of auditors, and systemic governance challenges in Nigeria. As Ogiriki and Boubai (2025) argued, audit practices alone cannot guarantee performance improvements unless embedded within broader governance and transparency reforms. Hence, the insignificance of audit quality in this study could reflect the structural weaknesses that constrain audits from exerting a meaningful financial impact.

The insignificance of individual predictors—fraud detection, regulatory compliance, and audit quality—suggests that isolated control measures may not be sufficient to improve financial outcomes in Nigeria's oil and gas sector. Instead, their effectiveness may depend on integration within comprehensive fraud risk management systems, stronger institutional enforcement, and long-term governance reforms.

5.0 Conclusion and Recommendations

From the results of the study, it was concluded that although forensic accounting strategies—proxied by Fraud Detection Rate, Regulatory Compliance Score, and Audit Quality Index—showed positive or negative relationships with financial outcome trends, none of the proxies were statistically significant at a 5% level of significance. This implies that while these strategies are conceptually important for financial integrity and fraud prevention, their practical application has not significantly translated into measurable financial improvements in Nigeria's oil and gas industry over the period studied. The study also concluded that the weak influence of forensic accounting strategies on financial outcomes may stem from implementation gaps, low integration of forensic mechanisms into core financial systems, and the need for advanced tools and trained personnel to drive effective fraud detection and regulatory compliance. Oil and gas companies in Nigeria should adopt a proactive and integrated forensic accounting approach—combining fraud detection, risk management, and regulatory compliance—while regulatory agencies like the FRCN and EFCC should mandate routine forensic audits to enhance transparency and accountability in the sector.

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