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# Environmental Accounting and Financial Performance of Conoil Plc in Nigeria

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**ABSTRACT:** *This study investigated the relationship between environmental accounting and financial performance of Conoil. The ex-post facto research design was employed in this case study of the sampled oil gas giant in Nigeria due to its comprehensive disclosure of environmental expenditures in its annual reports. The study utilized secondary data obtained from annual reports and accounts, downloads from Nigerian Exchange Group (NXG), and the company websites covering the period 2008 to 2022. The study employed descriptive statistics, correlation analysis, and Ordinary Least Squares (OLS) regression using Eview9 econometric software for data analysis. The correlation analysis result indicates that environmental restoration costs (ERC) are negatively correlated with profit after tax (PAT) and return on assets (ROA), while a positive correlation exists between PAT and ROA, providing insights into Conoil Plc's financial and environmental performance dynamics. The regression analyses reveal that while environmental restoration costs have a significant negative impact on return on assets (ROA), neither ERC nor health, safety, and environmental expenses (HSE) significantly influence profit after tax (PAT), indicating the nuanced relationship between environmental accounting metrics and financial performance in Conoil Plc's operations. The research additionally recommended that the corporation should regularly carry out environmental audits to evaluate adherence to environmental rules and pinpoint opportunities for enhancing environmental performance. The company should allocate resources towards renewable energy projects to reduce reliance on fossil fuels, mitigate environmental impact, and enhance long-term financial sustainability.*

**KEYWORDS:** Environmental restoration costs, Financial performance, Health, safety and environmental expenses

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## INTRODUCTION

Oil companies play significant role in the economic development of Nigeria, oil and gas being a major source of revenue and employment in the country. However, the operations of these

companies often come with environmental consequences that require careful consideration and management. Environmental accounting and financial performance analysis of oil companies in Nigeria are crucial aspects that not only provide insights into their profitability and operational efficiency but also shed light on their environmental stewardship and sustainability practices. Companies serve crucial roles in the economic development of any nation, but their economic operations often caused significant suffering to their local surrounds. Their actions give rise to significant health issues that frequently lead to social conflicts and disturbances in the economic operations of enterprises, consequently impacting their performance (Joshi & Joshi, 2024). Historically, business entities prioritized revenue without considering the surrounding environment. Okeagbe and Ofurum (2019) argue that depletion and degradation were not adequately addressed until conscientious individuals in industrialized nations recognized the negative consequences of allowing firms to prioritize profits over the well-being of the environment in which they operate. The primary apprehension at now is that the deterioration, contamination, and devastation of ecosystems will imminently pose a significant threat to human survival.

Over the years, the majority of African governments have neglected the importance of environmental accounting. In developed nations like the US and the UK, significant efforts have been made to address activities that harm the environment. Put simply, environmental accounting has advanced to the point that it has been integrated into the System of National Accounts. Incorporation was also carried out by Norway in 1970, the Philippines in 1990, Namibia in 1994, and Indonesia in 2003. Saudi Arabia, a prominent oil-producing nation, has implemented environmental accounting measures to monitor and regulate industrial operations that harm the ecosystem through pollution and degradation of the natural environment (Ilelaboye & Alade, 2022).

Lately, there has been a notable increase in instances when corporations are significantly contaminating their surroundings throughout the manufacturing process. According to section 41 of the Federal Environmental Protection Agency (FEPA) Act Cap F10 laws of the Federation 2002 in Nigeria, pollution is described as any deliberate or unintentional change caused by humans to the chemical, physical, or biological characteristics of the environment, resulting in harm to the environment. According to Ma et al (2024), the current global dilemma lies in the systematic degradation of the environment, which poses a significant threat to the entire world if not promptly addressed. In order to alleviate this adverse effect, a multitude of rules and regulations were implemented to regulate environmental issues in Nigeria. These rules and regulations require firms to be diligent and demonstrate a strong sense of accountability by addressing the adverse effects of their operations on the environment and society as a whole. Koskinen et al (2024) identified several bodies that were established to protect the environment and its national resources. “These include the Federal Environmental Protection Agency (FEPA) in 1988 through decree no 58, the Environmental Impact Act in 1992, the National Environment Standards and Regulations

Enforcement Agency (NESREA) Act in 2007, National Guidelines and Standards for Environmental Pollution Control of 1991, National Effluent Limitations of 1991, waste management regulations of 1991, and other relevant regulations”.

The activities of oil firms in Nigeria, such as exploration, production, and refining, are intrinsically connected to environmental consequences, which encompass pollution, deterioration of habitats, and the release of greenhouse gases. The consequences of these impacts can have extensive ramifications for ecosystems, communities, and public health, underscoring the necessity for strong environmental management and responsibility within the sector (Soana, 2024). In addition, with the escalating worldwide apprehensions regarding climate change and environmental sustainability, there is mounting pressure on oil firms to embrace accountability methodologies and openly reveal their environmental performance (Okutu & Adegbe, 2024). Environmental accounting serves as a framework for quantifying and reporting the environmental costs and benefits associated with business activities. Hasibuan and Tinambunan (2024) opined that environmental accounting involves the identification, measurement, and communication of environmental costs, assets, liabilities, and performance indicators. By integrating environmental considerations into financial decision-making processes, companies can better assess the true costs and benefits of their operations and implement strategies to minimize environmental risks and maximize opportunities for sustainable development.

Financial performance analysis, on the other hand, focuses on evaluating the economic viability and profitability of oil companies in Nigeria (Wu & Xu, 2024). This includes assessing revenue generation, cost management, profitability ratios, and investment decisions. Understanding the financial performance of oil companies is essential for investors, policymakers, and other stakeholders to make informed decisions about resource allocation, risk management, and regulatory oversight.

In the context of Nigeria, where the oil industry is a critical driver of economic growth and development, the environmental and financial performance of oil companies is of particular importance. The country's dependence on oil revenue makes it imperative to ensure that oil companies operate in an environmentally responsible and financially sustainable manner (Bamish & Adegbe, 2024). Furthermore, given the challenges posed by environmental degradation, climate change, and social unrest in oil-producing regions, the need for effective environmental accounting and financial performance analysis is more pressing than ever.

This study aims to provide a comprehensive analysis of the environmental accounting and financial performance of oil companies operating in Nigeria. By examining key indicators, trends, and challenges related to environmental management and financial sustainability, the study seeks to identify opportunities for improvement and best practices that can enhance the overall performance and resilience of the oil industry in Nigeria. Through this analysis, stakeholders can gain valuable

insights into the environmental and financial risks and opportunities associated with oil operations in Nigeria and develop strategies to promote sustainable development and responsible business practices in the sector.

### **Statement of the problem**

Reports have consistently highlighted the escalating incidents of pipeline vandalization, kidnappings, and militants' takeovers of oil facilities in the Niger Delta region of Nigeria (Ikpor et al, 2019). These actions are often viewed as attempts to seek redistribution of oil wealth due to perceived neglect of the environment by oil companies operating in the region. It's commonly argued that despite being the main source of revenue, the environment from which the oil is extracted is often neglected, leading to significant environmental degradation.

Kidnappings of oil workers for ransom and vandalism of oil facilities are prevalent, with grievances stemming from the perceived neglect of the environment (Ilelaboye & Alade, 2022). This sentiment is echoed by Eko-Setiawan (2024), who emphasizes the blame placed on the oil industry in the Niger Delta for environmental pollution.

Research conducted by Chen et al. (2023) further reinforces these concerns, revealing that oil and gas companies operating in Nigeria have been subjected to fines and compensation payments for neglecting the environment. Additionally, the flaring of natural gas associated with oil production poses significant environmental risks, with damages to the ecosystem often going unaccounted for by companies such as Conoil, which are expected to take financial responsibility for any environmental liabilities.

Therefore, the problem revolves around the company's perceived neglect of the environment amidst its oil extraction activities, leading to environmental degradation, social unrest, and potential financial liabilities. The gap here lies with the fact that no prior study has thoroughly investigated or addressed the issues raised. This problem underscores the need for robust environmental accounting practices and sustainable financial performance measures to address these challenges effectively. The specific objectives of the study were to;

1. Investigate the relationship between environmental restoration cost and financial performance (PAT & ROA).
2. Determine the relationship between Health, safety & environmental expenses and financial performance (PAT & ROA).

### **Research Hypotheses**

**H01:** Environmental restoration Cost does not significantly relate to financial performance (PAT & ROA).

**H0<sub>2</sub>:** Health, safety & environmental expenses does not significantly relate to financial performance (PAT & ROA).

## **LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **Conceptual review**

#### **Environmental restoration cost and financial performance (PAT & ROA)**

Environmental restoration costs play a pivotal role in shaping the financial performance of companies like Conoil, particularly in industries where environmental impacts are significant. These costs are incurred to rectify damages caused by operations, such as pollution or habitat destruction, and can have both short-term and long-term effects on profitability. In the short term, higher restoration costs can lead to increased expenses, reducing net income and impacting profit after tax (PAT). Additionally, these expenses can negatively affect return on assets (ROA) by reducing the value of assets or increasing depreciation associated with environmental liabilities. However, in the long run, strategic investments in environmental restoration can contribute to improved financial performance by mitigating operational risks, enhancing corporate reputation, and reducing regulatory scrutiny. Studies like those conducted by Nwaimo (2020) and Anselm and Janefrances (2020) have shown varying perspectives on the impact of restoration costs on financial performance, suggesting the need for careful management and evaluation of these expenditures to achieve optimal outcomes.

Moreover, environmental restoration costs are intertwined with regulatory compliance and corporate responsibility, further influencing financial performance. As noted by Iliemena (2020), companies that embrace environmental accounting practices tend to have better financial performance, as demonstrated by positive effects on return on capital employed (ROCE). This underscores the importance of proactive environmental management and transparency in financial reporting for companies operating in environmentally sensitive industries. Additionally, studies like those by Oraka (2021) and Ayu et al. (2020) highlight the potential for innovative approaches to environmental restoration, such as agroforestry systems and social cost investments, to positively impact financial performance. Thus, effectively managing environmental restoration costs not only aligns with corporate sustainability goals but also contributes to long-term financial resilience and value creation for companies like Conoil.

#### **Health, safety & environmental expenses and financial performance (PAT & ROA)**

Health, safety, and environmental (HSE) expenses are critical investments made by companies to ensure the well-being of their workforce and the protection of the environment while complying with regulatory standards (Chinedu et al., 2019). These expenses encompass various activities such as implementing safety measures, conducting environmental impact assessments, and providing employee training. However, the relationship between HSE expenses and financial performance,

specifically profit after tax (PAT) and return on assets (ROA), is multifaceted. On one hand, higher HSE expenses can initially lead to increased operational costs, impacting profitability as reflected in PAT (Ikpor et al., 2019). This is due to the direct impact of spending on safety equipment and environmental monitoring, which can reduce net income. Similarly, HSE expenses can influence a company's ROA by affecting the value and utilization of its assets (Oshiole et al., 2020). Strategic investments in safety equipment and environmental protection measures can improve asset efficiency, thereby enhancing ROA. However, inefficiently allocated HSE expenses or disproportionately high costs may decrease asset productivity and negatively impact ROA (Agboola & Oroge, 2019).

Furthermore, effective HSE management can have long-term implications for financial performance beyond immediate costs. Prioritizing worker safety and environmental protection can mitigate operational risks, avoiding costly accidents and regulatory fines, while enhancing stakeholder trust and access to capital (Iheduru & Chukwuma, 2019). This can ultimately lead to higher profitability and ROA over time. However, studies have shown mixed findings regarding the impact of HSE expenses on financial performance in Nigeria. While some research indicates a positive relationship between environmental health and safety costs and financial performance (Oshiole et al., 2020), others suggest negative or insignificant effects (Ilelaboye & Alade, 2022). Hence, it's imperative for companies like Conoil to carefully manage their HSE expenditures to balance short-term costs with long-term benefits, ensuring sustainable value creation while maintaining financial viability and compliance with regulatory standards. This led to hypothesis two as thus;

### **Stakeholders' Theory**

In the context of Conoil's operations in Nigeria, the theory put forth by Jensen and Meckling (1976) underscores the importance of considering the interests of various stakeholders beyond just the owners or shareholders. As a major player in the oil industry, Conoil operates within a complex network of relationships with stakeholders such as government agencies, local communities, environmental organizations, and regulatory bodies. Environmental accounting practices in this context go beyond traditional financial reporting to encompass the quantification and communication of the company's environmental impacts, risks, and mitigation efforts. By integrating environmental considerations into its financial decision-making processes, Conoil can better navigate the diverse interests and expectations of stakeholders while also optimizing its financial performance. This approach aligns with the notion of corporate social responsibility and sustainability, where companies like Conoil are increasingly expected to not only generate profits but also contribute positively to environmental protection and community well-being (Iliemena, 2020). Thus, by adopting robust environmental accounting practices, Conoil can enhance transparency, build trust with stakeholders, and ultimately strengthen its financial performance in the Nigerian oil industry.

### **Empirical Review**

The empirical reviews provide valuable insights into the complex relationships between environmental costs, accounting practices, and financial performance across various industries and regions in Nigeria, highlighting the need for tailored strategies to address environmental challenges while ensuring long-term corporate sustainability and profitability. Nwaimo (2020) conducted a study on the impact of environmental costs on quoted enterprises' performance in Sub-Saharan Africa. Using a ex-post facto approach and panel data analysis, they found that environmental costs had varied effects across South Africa, Nigeria, Ghana, and Tanzania. While these costs showed no significant impact on performance metrics in Nigeria and South Africa, they notably affected performance in Tanzania and Ghana. The study recommends further investigation into country-specific factors influencing this relationship.

Ilelaboye and Alade (2022) explored the effect of environmental accounting on family-owned companies in Nigeria. Employing a ex-post facto research design and Ordinary Least Squared techniques, they found that restoration costs had a negative and insignificant effect, community development costs had a negative and significant impact, and health safety costs had a positive yet insignificant effect on financial performance. The study suggests sustaining investment in health and safety, and recommends establishing a "Trust Fund Trustees" for handling community development costs.

Iliemena (2020) investigated the influence of environmental accounting practices on corporate performance of listed oil and gas companies in Nigeria. Employing a ex-post facto design and simple linear regression, the study revealed significant positive effects of environmental accounting practices on turnover and return on capital employed, with a negligible effect on net profit. The study advocates for integrating environmental accounting into corporate financial reporting systems for long-term sustainability.

Oshiole et al (2020) examined the impact of environmental cost disclosure on profitability in Nigerian oil and gas firms. Using content analysis and statistical methods like Pearson Correlation Coefficient and Panel Least Square Regression, they found significant positive effects of waste management, external failure, and environmental remediation cost disclosures on net profit margin. The study recommends repositioning accounting systems to provide comprehensive information on environmental costs for strategic decision-making.

Iheduru and Chukwuma (2019) analyzed the relationship between environmental and social costs and the performance of manufacturing companies in Nigeria. Employing multiple regression models, they observed significant negative associations between environmental and social costs and metrics like return on capital employed and earnings per share, but positive relationships with net profit margin and dividend per share. The study suggests balancing environmental and social costs with financial performance metrics for sustainable growth.

Agboola and Oroge (2019) evaluated the effect of environmental cost on the financial performance of two quoted cement companies in Nigeria. Primary and secondary data were employed for the study. The primary data was sourced through the use of questionnaires, while the secondary data was sourced from the annual financial reports and accounts of the companies spanning 2013 to 2018. Regression analysis was adopted for the data analysis. It was found that environmental costs had significant and positively effects on the financial performance of the cement companies in Nigeria.

The study of Chinedu et al (2019) examined the impact of environmental disclosure on the performance of cement companies in Nigeria using environmental health and safety cost as one of the explanatory variables. Data was sourced secondarily from the annual reports of the companies covering 2006-2017. Through the use of a panel regression model, the outcome indicated that environmental health and safety costs had a negative and significant impact on the firms' performance.

Ikpor et al (2019) re-examined the effect of the neglected but important issue of Environmental accounting in the context of how it affect sustainable financial performance of firms in Nigeria. Using data from ten petroleum companies operating in the Niger – delta part of Nigeria over a period of 48 years (1970 to 2017) analyzed through the lenses of ordinary least square regression method, our finding suggested that environmental operating costs and environmental prevention costs have significant and negative effect on the performance of petroleum firms in Nigeria. However, we found important differences in the correlates of firms' capital expenditure on sustainable financial performance. The finding of this study therefore has important implications for policy formulation on environmental concerns.

Ayu et al (2020) investigated the effect of environmental cost disclosure and social cost disclosure on financial performance mediated by earning management. To achieve this purpose, a quantitative research method was employed using primary data sources and collected from the employees of international energy corporations. Then, the data were examined using smart Partial Least Squares (PLS). The study results revealed that the environmental and social costs disclosure significantly affected financial performance. This was in agreement with theories of instrumental stakeholders, legitimacy and agency. This means that more cost on environmental and social information disclosure can generate greater opportunities for corporations.

Okezie et al (2019) investigated the financial performance and environmental costs of Nigerian listed companies. Using an ex post facto approach and multiple regression models, they found little correlation between environmental costs and financial success. The study implies a need for further exploration of factors influencing the relationship between environmental costs and financial performance in Nigerian companies.



Oraka (2021) studied the environmental costs and financial performance of Nigerian oil and gas businesses. Employing an ex-post facto research design and regression analysis, they found significant impacts of environmental remediation and compliance costs on Tobin's Q. The study suggests prioritizing environmental cost management to enhance financial performance in the oil and gas sector.

## METHODOLOGY

The research design employed in this report consisted of a case study and ex-post facto analysis, as it depended solely on the historical data of a single oil and gas corporation. The study's population was limited to a single oil & gas business in Nigeria, as of December 31, 2022. The study exclusively examined the corporations (Conoil Plc) due to their comprehensive disclosure of environmental expenditures in their annual reports. Therefore, this sample was intentionally selected. The study utilized secondary data obtained from annual reports, financial statements, downloads from the Nigerian Exchange Group (NXG), and company websites covering the period from 2008 to 2022. The study employed descriptive statistics, correlation analysis, and Ordinary Least Squares (OLS) regression using Eview9 econometric software for data analysis. In addition, environmental accounting was represented by the costs associated with environmental restoration, as well as expenses related to health, safety, and the environment. The dependent variable, which was used as a surrogate for financial performance, was measured by profit after tax and return on assets. In order to mitigate the impact of big values, the study employed the natural logarithm of some variables. The model is represented by the following expression:

$$PAT_{it} = \beta + \log\beta_1 \log ERC_{it} + \beta_2 \log HSE_{it} + e_{it}$$

$$ROA_{it} = \beta + \log\beta_1 \log ERC_{it} + \beta_2 \log HSE_{it} + e_{it}$$

ROA = Return on assets

ERC = Environmental restoration cost

HSE = Health, safety and environmental expenses

PAT = Profit after tax

**Table 3.1: Measurement of variables**

S/N	Variable	Variable Type	Measurement	Source
1	HSE	Independent	Log of health and safety cost	Oshiole et al. (2020); Illelaboye and Alade (2022).
2	ERC	Independent	Log of repairs and maintenance cost	Oshiole et al. (2020); Illelaboye and Alade (2022).
3	PAT	Dependent	Log of PAT	Researcher, 2024
4	ROA	Dependent	Net income/Average total assets	Researcher, 2024

Source: Researcher

## DATA ANALYSIS AND RESULT

Data analyzed here were the properties of environmental accounting (environmental restoration costs, and health, safety and environmental expenses) and financial performance (profit after tax and ROA) of Conoil Plc in Nigeria. However, the raw data is shown in the appendices.

**Table 4.1: Descriptive Statistics**

	ERC	HSE	PAT	ROA
Mean	5.308220	4.270149	6.363290	0.080330
Median	5.335105	4.334992	6.329065	0.064275
Maximum	5.451215	4.464504	6.695283	0.150441
Minimum	5.003392	3.931610	6.158418	0.050227
Std. Dev.	0.147190	0.193180	0.177202	0.034660
Skewness	-1.089877	-0.624068	0.674902	1.203077
Kurtosis	3.294484	2.023539	2.505044	3.039578
Jarque-Bera Probability	1.612682 0.446489	0.837106 0.657998	0.688984 0.708580	1.930381 0.380911
Sum	42.46576	34.16119	50.90632	0.642638
Sum Sq. Dev.	0.151654	0.261229	0.219805	0.008409
Observations	15	15	15	15

*Source: Eview9 output*

The descriptive statistics provided give us a comprehensive overview of Conoil Plc's environmental accounting and financial performance, all expressed in billion naira. The mean ERC stands at approximately ₦5.31 billion, indicating the average expenditure on environmental restoration activities. The data's skewness (-1.09) suggests that there's a higher frequency of lower ERC values, indicating that the majority of expenditures fall below the mean. The kurtosis (3.29) indicates that the distribution of ERC is leptokurtic, meaning it has heavier tails and a sharper peak compared to a normal distribution. The mean of HSE expenses amount to roughly ₦4.27 billion, reflecting the company's investment in health, safety, and environmental measures. The negative skewness (-0.62) implies that there are more instances of lower expenses compared to higher ones. The kurtosis (2.02) indicates a distribution slightly more peaked than normal, suggesting some level of concentration around the mean. The mean profit after tax is around ₦6.36 billion, indicating the company's net income after accounting for taxes. With positive skewness (0.67), there's a tendency for more instances of higher profits. The kurtosis (2.51) suggests a distribution slightly more peaked than normal, but less so compared to ERC and HSE. The mean ROA is 0.08, representing a return of 8% on assets. The heavily positive skewness (1.20) implies a distribution with a tail on the right side, indicating instances of higher returns. The kurtosis (3.04) suggests a distribution with heavier tails compared to a normal distribution. Overall, these statistics provide

valuable insights into Conoil Plc's financial and environmental performance, offering stakeholders a glimpse into its expenditure patterns, profitability, and efficiency in generating returns from its assets.

**Table 4.2 Correlation Matrix**

	ERC	HSE	PAT	ROA
ERC	1	0.1475629176 343332	-0.6599148155 640208	-0.8374105231 560549
HSE	0.1475629176 343332	1	0.2049750657 352062	0.1692523675 560955
PAT	0.6599148155 640208	0.2049750657 352062	1	0.9430696319 074076
ROA	0.8374105231 560549	0.1692523675 560955	0.9430696319 074076	1

*Source: Eview9 output*

The correlation matrix provides insight into the relationships between environmental restoration costs (ERC), health, safety, and environmental expenses (HSE), profit after tax (PAT), and return on assets (ROA) for Conoil Plc. The correlation coefficients reveal the following patterns: ERC exhibits a weak positive correlation with HSE (0.15), suggesting a slight tendency for these expenses to increase together. However, ERC shows moderate to strong negative correlations with both PAT (-0.66) and ROA (-0.84), indicating that higher environmental restoration costs are associated with lower profitability and returns on assets. Additionally, there is a strong positive correlation between PAT and ROA (0.94), signifying that higher profits tend to align with greater returns on assets. These correlation coefficients provide valuable quantitative insights into the relationships among these financial and environmental performance metrics, aiding in understanding the dynamics within Conoil Plc's operations and informing strategic decision-making.

**Table 4.3: Estimation of environmental accounting on PAT****Dependent Variable: PAT**

Method: Least Squares

Date: 02/11/24 Time: 14:02

Sample: 1 15

Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.90764	2.348756	4.644009	0.0056
ERC	-0.774934	0.404691	-1.914879	0.1137
HSE	-0.100894	0.308347	-0.327210	0.7568
R-squared	0.447322	Mean dependent var		6.363290
Adjusted R-squared	0.226251	S.D. dependent var		0.177202
S.E. of regression	0.155873	Akaike info criterion		-0.599559
Sum squared resid	0.121481	Schwarz criterion		-0.569769
Log likelihood	5.398238	Hannan-Quinn criter.		-0.800485
F-statistic	2.023431	Durbin-Watson stat		2.534126
Prob(F-statistic)	0.227081			

*Source: Eview9 output*

The regression analysis conducted on the financial performance of Conoil Plc, specifically focusing on profit after tax (PAT) as the dependent variable, provides valuable insights into the potential influence of environmental accounting metrics, such as environmental restoration costs (ERC) and health, safety, and environmental expenses (HSE), on the company's profitability. The results indicate that while there is a statistically significant intercept (C) at 10.91 (t-statistic: 4.64, p-value: 0.0056), suggesting a baseline level of profit after tax, neither ERC nor HSE demonstrate statistically significant effects on PAT. The coefficient for ERC (-0.775) suggests a negative relationship with PAT, although it is not statistically significant at the conventional significance level (p-value: 0.1137). Similarly, HSE exhibits a coefficient of -0.101, indicating a negative relationship with PAT, yet it is not statistically significant (p-value: 0.7568). The overall model's explanatory power is modest, with an R-squared of 0.447, indicating that 44.7% of the variance in PAT is explained by the included variables. However, the adjusted R-squared (0.226) suggests that the model's fit may be improved with additional variables or adjustments. The Akaike information criterion (AIC), Schwarz criterion, and Hannan-Quinn criterion provide measures of model fit and complexity, with lower values indicating better fit. The F-statistic (2.023) and its associated p-value (0.227) indicate that the overall model is not statistically significant at the conventional significance level. The Durbin-Watson statistic (2.534) suggests no significant autocorrelation in the model's residuals. In summary, while this regression analysis provides insights into the potential relationship between environmental accounting metrics and financial performance, the results suggest that ERC and HSE may not significantly influence profit after tax for Conoil Plc during the observed period.

**Table 4.4: Estimation of environmental accounting on ROA****Dependent Variable: ROA**

Method: Least Squares

Date: 02/11/24 Time: 14:04

Sample: 1 15

Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.154226	0.336551	3.429569	0.0186
ERC	-0.195568	0.057988	-3.372571	0.0198
HSE	-0.008379	0.044183	-0.189633	0.8571
R-squared	0.703390	Mean dependent var		0.080330
Adjusted R-squared	0.584746	S.D. dependent var		0.034660
S.E. of regression	0.022335	Akaike info criterion		-4.485340
Sum squared resid	0.002494	Schwarz criterion		-4.455550
Log likelihood	20.94136	Hannan-Quinn criter.		-4.686266
F-statistic	5.928566	Durbin-Watson stat		2.780114
Prob(F-statistic)	0.047914			

*Source: Eview9 output*

The regression analysis conducted on the financial performance of Conoil Plc, specifically focusing on return on assets (ROA) as the dependent variable, offers insights into the potential impact of environmental accounting metrics, including environmental restoration costs (ERC) and health, safety, and environmental expenses (HSE), on the company's asset efficiency. The results indicate that there is a statistically significant intercept (C) at 1.15 (t-statistic: 3.43, p-value: 0.0186), suggesting a baseline level of return on assets. Moreover, ERC demonstrates a statistically significant negative effect on ROA, with a coefficient of -0.196 (t-statistic: -3.37, p-value: 0.0198), implying that higher environmental restoration costs are associated with lower asset efficiency. However, HSE does not exhibit a statistically significant effect on ROA, with a coefficient close to zero (-0.008, t-statistic: -0.19, p-value: 0.8571). The overall model's explanatory power is relatively high, with an R-squared of 0.703, indicating that 70.3% of the variance in ROA is explained by the included variables. The adjusted R-squared (0.585) suggests that the model's fit remains relatively strong even after adjusting for the number of predictors. The Akaike information criterion (AIC), Schwarz criterion, and Hannan-Quinn criterion provide measures of model fit and complexity, with lower values indicating better fit. The F-statistic (5.929) and its associated p-value (0.048) suggest that the overall model is statistically significant at the conventional significance level, indicating that the included variables jointly have a significant impact on ROA. The Durbin-Watson statistic (2.78) suggests no significant autocorrelation in the model's residuals. In summary, this regression analysis highlights the significant negative relationship between environmental restoration costs and return on assets for Conoil Plc, underscoring the importance of managing environmental expenditures to enhance asset efficiency and financial performance.

## CONCLUSION AND RECOMMENDATIONS

The study examined the correlation between environmental accounting and the financial performance of Conoil in Nigeria. This paper utilized a case study and ex-post facto research design, focusing on the historical data of Conoil Plc, a single oil and gas company in Nigeria as of December 31, 2022. The study employed a purposive sampling approach, as Conoil Plc was chosen due to its comprehensive disclosure of environmental costs in its annual reports. Data was gathered from secondary sources, including annual reports, accounts, downloads from the Nigerian Exchange Group, and the company's website, spanning the period from 2008 to 2022. The correlation analysis result indicates that environmental restoration costs (ERC) are negatively correlated with profit after tax (PAT) and return on assets (ROA), while a positive correlation exists between PAT and ROA, providing insights into Conoil Plc's financial and environmental performance dynamics. The regression analyses reveal that while environmental restoration costs have a significant negative impact on return on assets (ROA), neither ERC nor health, safety, and environmental expenses (HSE) significantly influence profit after tax (PAT), indicating the nuanced relationship between environmental accounting metrics and financial performance in Conoil Plc's operations. The results of the analysis provided insights into the relationships between environmental accounting metrics and financial performance indicators, highlighting the significant impact of environmental restoration costs on return on assets. Overall, the findings contribute to the understanding of the financial implications of environmental activities within the oil and gas industry context. The study further suggested that;

1. The company should regularly undertake environmental audits to assess its adherence to environmental rules and pinpoint opportunities for improving its environmental performance.
2. The company should allocate resources towards renewable energy projects to reduce reliance on fossil fuels, mitigate environmental impact, and enhance long-term financial sustainability.
3. The company should strengthen engagement with stakeholders, including local communities and environmental organizations, to foster transparency, address concerns, and build trust in environmental management practices.

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## APPENDICES

YEAR	COMPANY	HSE '000 N	PAT '000 N	TA '000 N	ERC (Repairs and maintenance) '000 N	ROA
2008	CONOIL	6,545	1,304,559	69,387,364	123,321	0.035262
2009		6,052	1,837,884	69,833,463	130,193	0.025366
2010		6,904	1,575,502	62,855,084	135,213	0.028464
2011		7,002	1,796,042	60,897,246	144,734	0.036272
2012		73,01	1,324,320	63,584,866	182,649	0.062037
2013		8,388	1,440,185	48,864,665	186,832	0.027376
2014		9,213	2,002,690	53,981,346	198,256	0.115237
2015		8,543	2,307,557	69,387,364	266,364	0.066512
2016		23,352	2,837,884	69,833,463	230,191	0.081276
2017		29,141	1,578,507	62,855,084	203,293	0.050227



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2018	25,542	1,796,042	60,897,246	264,743	0.058986
2019	20,029	1,972,322	63,584,866	282,628	0.062037
2020	13,849	1,440,185	48,864,665	184,835	0.058946
2021	28,213	3,082,690	53,981,346	168,211	0.114213
2022	12,473	4,957,726	65,909,238	100,784	0.150441

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Source: Extracted via NXG Bulletin, 2023.