WELLSPRING UNIVERSITY JOURNAL OF SOCIAL AND MANAGEMENT SCIENCES
(WUJSMS)
VOL. 5 NO. 1 ISSN: 2616-1296 JANUARY , 2026

ENVIRONMENTAL REPORTING DISCLOSURE AND FINANCIAL PERFORMANCE: EVIDENCE FROM LISTED OIL AND GAS COMPANIES IN NIGERIA

LAWAL BABATUNDE AKEEM
Department of Accounting & Finance,
McPherson University Seriki-Sotayo.
Ogun State
Corresponding email: ab400level@yahoo.com

OYETUNJI OLUWAYOMI TAIWO
Department of Accounting & Finance,
McPherson University Seriki-Sotayo.
Ogun State

AMOSU LUKMAN LADI
Department of Accounting & Finance,
McPherson University Seriki-Sotayo.
Ogun State

&

OJELADE RACHAEL
Department of Accounting,
University of Ibadan,
Oyo State

Abstract

This study examines the effect of environmental reporting disclosure on the financial performance of listed oil and gas companies in Nigeria. Specifically, it evaluates the influence of emission and energy disclosure, effluents and waste disclosure, and compliance with environmental laws and regulations on firm performance measured by return on assets (ROA) and return on equity (ROE). An ex-post facto research design was adopted using panel data obtained from the annual reports and Nigerian Exchange Group fact books of seven listed oil and gas firms for the period 2014–2023. The data were analysed using Panel Least Squares and Huber Robust regression techniques. The findings indicate that emission and energy disclosure has a significant negative effect on ROA and ROE, suggesting that environmental compliance costs may reduce short-term profitability. Compliance with environmental regulations shows a positive and significant effect on ROA, while effluents and waste disclosure has no significant effect on financial performance. The study concludes that although environmental disclosure enhances corporate legitimacy and sustainability, it may exert short-term financial pressure on firms. The study recommends improved cost-efficient environmental strategies and stronger regulatory frameworks to promote transparent and timely environmental reporting in the Nigerian oil and gas sector.

Keywords: *Environmental reporting disclosure, financial performance, environmental compliance, ROA, ROE, oil and gas companies, Nigeria.*

Introduction

Financial performance is widely considered to be the degree to which a company can meet its financial goals by appropriately using resources. Financial performance is defined as the capacity of the firm to be able to come up with sustainable profits in the long term (Minh & Afifa, 2024). Rosly (2024) explained financial performance in the petroleum context as the quantification of the economic outputs, which are based on the exploration, production, and

distribution processes. On the same note, Okika et al. (2024) indicated that financial performance evaluates the efficiency with which capital-intensive activities of the firm are handled, especially in unstable energy markets. Sinaga (2024) asserted that it shows the profitability, liquidity, and the financial strength of oil and gas companies in general.

Corporate organization primarily exists to make profit. The profit motive has often been perceived as representing a lack of concern for all other objectives of an organization. But today corporate organizations are realizing that in order to stay profitable as well as enhance financial performance in a rapidly changing environment, they would have to become socially responsible. Therefore, the belief that beyond making profit for the shareholders, corporate organization should also serve the interests of all other stakeholders has culminated into the concept of environmental disclosure (Hameed, 2024). Similarly, Karel (2024) opined that, in the past, the society did not attach importance to the issue of environmental disclosure, as their expectations were only focused on organizations efficient resource allocation, its profit maximization as well as financial performance. Although in the contemporary era, it has gone beyond that as corporate organization now reason beyond profit maximization hence, engaging in environmental disclosure.

Environmental disclosure covers the preparation and provision of information for use of multiple stakeholders (both internal and external) on the environmental status and the performance of their company (Safittri, 2024). Oil and gas companies' activities have culminated in altering environmental and biological makeup, leading to ecological damage, emissions, pollution and landscape destruction (Okonkwo & Aremu, 2024).

Listing rules requires companies to disclose on their environmental footprints, health and safety strategies aimed at abating or mitigating employee work related accidents, waste management procedures adopted to control or manage companies waste in order to reduce its impact on the environment and effort geared towards alleviating the standard of living of its host communities through the provision of infrastructural facilities and other basic amenities. These requirements are not met by most firms in the manufacturing and as a result, the business environment becomes volatile and unconducive for businesses to thrive as these firms are perceived as environmentally unfriendly which impedes corporate image and adversely affects financial performance.

Therefore, to the best of the researcher knowledge, none of these studies investigated the effect of environmental disclosures on the financial performance of listed oil and gas companies using the variables of effluents and waste, emission, energy and financial performance. This create room for knowledge gap, and that there is dearth of economic literature on comprehensive analysis of the effect of carbon monoxide, emission, energy on financial performance in Nigeria listed companies apparently leaves a gap between what people perceived to exist on the effect of effluents and waste, emission, energy, and financial performance in Nigeria listed companies. Hence, this paper filled this gap by empirically investigating the effect of environmental reporting disclosure on the financial performance of listed oil and gas companies in Nigeria.

The main objective of this study is to examine the effect of environmental reporting disclosures on the financial performance of Nigerian listed companies. However, the specific objectives are to:

1. Determine the effect of environmental reporting disclosures on return on asset of listed oil and gas companies in Nigeria.
2. Examine the effect of environmental reporting disclosures on return on equity of listed oil and gas companies in Nigeria.

In Nigeria, the increasing environmental issues of which oil and gas industries tend to have a profound impact on the environment calls for examination of the quality of environmental disclosure voluntarily provided in their annual reports to creating awareness among the stakeholders. As Terkende (2024) reviewed, environmental information though not mandatory is regarded as best practice. However, any deviation from the best practice

may give a bad signal to the society and the market because it implies a poor management of environmental responsibility and impacts of the firm on the natural environment. Firms that intend to build a good image need to prove herself to be socially responsible by ensuring that best practices are observed. In the light of the above, the study examines the effect of environmental reporting disclosures on financial performance of listed oil and gas companies in Nigeria.

2.0 Literature Review

Conceptual Review

Financial Performance

Financial performance of a company could be described as an economic category that reveals the aptitude of companies in utilizing human and material resources to accomplish the goals and objectives of an organization (Rahman et al., 2024). Corporate financial performance explains the association among the output outcomes and input resources utilized in the course of company operations of organization. Krause et al. (2024) described financial performance as an essential prerequisite for long-term corporate survival and victory. Hassan and Bello (2024) opined that financial performance is employed to evaluate company's financial health generally over a specified period of time and may also be employed to evaluate similar companies across the same sector or to evaluate sectors or industries in aggregation.

Return on Assets

ROA measures management performance. A higher ROA indicates to an investor that management performance at using asset to generate income is efficient (Adekunle & Okorie, 2024). An increasing ROA may at first appear good, but turn out to be unimpressive if other companies in the same industry have been posting higher returns and greater improvements in ROA. A company should produce an ROA higher than the risk-free rate of return in order to be rewarded for the additional risks involved in operating the business. If a company's ROA is equal or less than the risk-free rate, investors might not be attracted and rather purchase a bond with guaranteed returns. This measure of performance takes into consideration the effect or contribution of organization asset toward net income. Ajayi and Nwachukwu (2024) calculated it as net income divided by total assets.

Return on Equity

Return on Equity measures management's performance. It shows how well a company has used its shareholders' capital to make profits. Similar to the ROA ratio, a higher ROE also denotes a higher level of management performance. Chika and Ogunleye (2024) defined it as net income divided by the value of shareholder's equity. According to Usman and Bello (2024), the best way to keep shareholders to stay invested in a firm is by giving them a good return for their investment. Shareholders can determine how much investment returns on each amount they invest using the Return on Equity ratio. Okorie and Hassan (2024) explained that ROE is the ratio measuring net profit after tax with its capital. ROE growth states that the company's prospects are getting better because it can increase its profit. ROE demonstrates the efficiency of own capital use.

Environmental Reporting Disclosure

Companies are expected to prepare annual reports which disclose both qualitative and quantitative information about their operations and performance (economical, financial, social or otherwise) to be presented to their stakeholders (owners or shareholders, government, employees etc.). The informational content requirements of these stakeholders are diverse and as such firms must not only disclose information about their financial performance but prepare other reports as environmental accounting reports, sustainability report, human resources accounting report, good corporate governance report etc. (Ismail et al., 2024). Environmental accounting as observed by Adamu and Yusuf (2024) is an inclusive field of accounting. It provides reports for both internal uses generating

environmental information to help make management decisions on pricing, controlling overhead and capital budgeting and external use, disclosing environmental information is of interest to the public and to the financial community.

Emission and Energy Disclosure

Studying the productivity impact of green energy infrastructure could not only inform national policy debates on green energy infrastructure investment but also help to mitigate global carbon emissions. Given the global efforts toward mitigating the carbon emissions from increasing energy use, the adoption of low-carbon or green energy resources, including hydropower, is a key solution. However, such kinds of green energy often face cost disadvantages compared with fossil fuels and thus appear less attractive to national policy makers. In fact, infrastructure investment has many benefits beyond economic returns, that is, positive externalities, such as reducing transportation costs, fostering economic integration, stimulating competition, and improving access to new markets (Neffe et al., 2024).

Effluents and Waste Disclosure

This includes water discharges; the generation, treatment, and disposal of waste; and spills of chemicals, oils, fuels, and other substances that can to human health and the environment. The organization's contribution in this matter can be indicated by efforts to effluents and waste reduction such as waste minimization strategies emphasize prioritizing options for reuse, recycling, and then recovery over other disposal options to minimize ecological impacts. Waste specifically is any substance which is discarded after primary use or is worthless, defective and of no use. Example includes municipal solid waste (household refuse), hazardous waste, wastewater (such as sewage which contains bodily wastes (feces and urine) and surface runoff), radioactive waste and others.

Compliance to Environmental Laws and Regulation Disclosure

Compliance to Environmental Laws and Regulations are the extent of the organization's compliance with environmental laws and regulations, including international declarations, conventions, and treaties, as well as national, sub-national, regional, and local regulations. Regulatory compliance, especially by industries, is key in the fight against climate change and other green environmental challenges. This is important since industrial pollution is not only responsible for a large share of the air and water pollution generated in most countries, but also accounts for a sizable share of carbon emissions. One of the biggest concerns in developing economies is that rapid economic growth can often be accompanied by a similarly rapid deterioration of the environment and an increase in pollution. The rapid economic expansion of the Nigerian economy since 1990 significantly contributed to the country's worsening of environmental quality. Existing evidence linking health to air pollution shows that sustained exposure to air pollution impacts life expectancy (Obeng et al., 2024).

Theoretical Review

Stakeholder Theory

Stakeholder theory was propounded by Edward Freeman in 1984. It is one of the major approaches to social, natural, and administration investigation. Scholars portray stakeholders as partners "those people who can influence or be influenced by the activities associated with trade", or as "the people who depend on the firm to attain their individual objectives and on whom the firm depends on for its existence". The idea of stakeholder theory begun to receive significant attention in organizational and management research, after the publication of Strategic Management: A Stakeholder Approach by Edward Freeman in 1984. The theory refers to how business works at its best, and how it could work. It is about value creation, trade and how to manage the business effectively. The stakeholder theory argues that firms have a moral obligation to consider and appropriately balance the interest of all stakeholders (Georgakakis et al., 2024).

Stewardship Theory

A steward protects and maximizes shareholder's wealth through performance, because, by doing so, the steward's utility functions are maximized (Hameed, 2024). The steward identifies greater utility accruing from satisfying organizational goals than through self-serving behavior. Stewardship theory recognizes the importance of structures that empower the steward, offering maximum autonomy built upon trust. This minimizes the cost of mechanisms aimed at monitoring and controlling behaviors. Vo et al. (2024) contend that to protect their reputations as expert decision makers, executives and directors are inclined to operate the firm in a manner that maximizes performance indicators, including shareholder returns, on the basis that the performance directly impacts perceptions of their individual performance.

The Legitimacy Theory

This legitimacy theory focuses on the company's interactions with society. It was first developed by Dowling and Pfeffer in 1975 and it assume that a company should not be in existence unless it can meet the expectations of the society in which it operates. Kim and Lee (2024) described legitimacy as a condition or status which exists when an entity's system is congruent with the value system of the larger social system of which the entity belong. However, whenever there is potential or actual disparity between the two value systems, entity's legitimacy is threatened. According to Zadeh et al. (2024), legitimacy theory states that organizations continuously try to ensure that they carry out activities in accordance with societal boundaries and norms. Legitimacy theory came from political economy theory and anchored on the idea that the legitimacy of a company to operate in society rest on an implicit social contract between the company and society in which it operates (Prabhu & Srivastava, 2024).

Empirical Review

Environmental Reporting Disclosures and Return on Assets

Awa et al. (2024) investigated the effect of environmental accounting information disclosures on financial performance of cement manufacturing companies in Nigeria. Ex-post facto research design was adopted in carrying out the study. Data were gathered from the annual reports of the company to actualize the objectives stated for the work. The panel data gathered were analytically estimated using the multiple regression techniques with the aid of E-view 12.0 econometric software to test the hypotheses. Descriptive statistical techniques, correlation test and diagnostic test were used to assess the multicollinearity of the variables under study, while statistical tests such as F-statistic and Hausman test were carried out to test the overall significance of the regression equation. It was revealed that corporate social responsibility disclosure, such as health and safety disclosure and remediation/pollution control disclosures have significant effects on return on assets of the listed companies in Nigeria, whereas, environmental fines and penalties disclosure have statistical insignificant effect on return on assets.

Adebayo and Ezejiofor (2024) examined the effect of voluntary environmental disclosure on the corporate performance of quoted consumer goods manufacturing firms in Nigeria. The study specifically examined the effect of voluntary disclosure on the current ratio and quick ratio. The study used the ex post facto research design. The population of the study was drawn from selected consumer good manufacturing firms quoted on the floor of the Nigerian Exchange Group. The study was based on secondary sources of data, collected from annual financial reports. The study found that voluntary disclosure is positively related to the current ratio and a quick ratio of quoted manufacturing companies in Nigeria.

Arumona et al. (2024) examined the effect of environmental disclosure on financial performance of quoted oil and gas companies in Nigeria, using panel series data and regression analysis approach. The focus variables of this study are environmental disclosure for independent variable and financial performance for dependent variable. The Independent

Variable is proxied by research and development cost and estimated future expenditure while dependent variable is proxied by net profit margin and return on asset. The secondary data obtained from the annual reports of 15 oil and gas companies quoted on the floor of the Nigerian Exchange Group (NGX) for 12 years ranging from year 2012–2023 were used. The study adopted the E-view as a statistical tool for analysis with focus on Ordinary Least Square (OLS) regression method. The study found that environmental disclosure has positive and statistically significant effect on financial performance of quoted oil and gas companies in Nigeria during the period under review.

Olowookere et al. (2024) examined the impact of environmental accounting disclosure on financial performance of listed cement companies in Nigeria. The study employed expo facto research design. Data were sourced from annual report and accounts of four cement companies listed on the Nigerian Exchange Group from 2013 to 2023. Descriptive statistics and estimated panel regression methods were employed. The results of the study revealed that environmental accounting disclosure has positive and significant impact on firm financial performance of the listed cement companies in Nigeria.

Environmental Reporting Disclosures on Return on Equity

Omaliko et al. (2024) empirically investigated the effect of social and environmental disclosures on performance of non-financial firms in Nigeria. The study is vital as it portrays the extent to which social and environmental disclosures influence firms' performance. In order to determine the relationship between social and environmental disclosures and firm's performance, some key proxy variables were used in the study, namely corporate social responsibility disclosure and environmental disclosure; firms' performance is however represented by NAPS. Two hypotheses were formulated to guide the investigation and the statistical test of parameter estimates was conducted using panel regression model. The research design used is Ex Post Facto design and data for the study were obtained from the NGX Fact book and published annual financial reports of the entire 112 non-financial firms quoted on NGX with data spanning from 2012-2023. The findings generally indicate that corporate social and environmental disclosures have significantly influenced firms' performance.

Fakoya and Lawal (2024) examined the effect of environmental accounting on the quality of accounting disclosures of shipping firms in Nigeria. Using descriptive and inferential statistics to analyse the data that were gathered through the questionnaires that were administered on the staff of registered shipping companies in Nigeria, the result was interpreted through descriptive and inferential statistics. The study found out that environmental accounting influences the quality of accounting disclosure of shipping firms in Nigeria. There was a significant positive correlation between environmental accounting and quality of accounting disclosure of shipping firms in Nigeria.

Atang and Eyisi (2024) study the determinants of environmental disclosures of listed manufacturing firms in Nigeria. The data for the study was gotten from a sample of 25 listed firms in the industrial sector. Ex post facto research design is adopted for the study and multiple regressions is used in analyzing the data gotten. Descriptive and inferential statistics were used to generalize the results and conclude the findings. The result showed a beta value 0.021 for cost of sales. This means an increase in the profitability of manufacturing firms will lead to a 2.1% increase in the environmental disclosure of the company. The result also revealed that board composition influences about 15% of the variation in the environmental disclosure of manufacturing firms in Nigeria. While on the other hand auditor type contributes only 6.2% of the changes in the environmental disclosure of the manufacturing firms in Nigeria. It is therefore concluded that profitability, auditor type, board composition and firm size jointly influences the environmental disclosure of manufacturing firms in Nigeria.

Falope et al. (2024) determined the effect of environmental disclosure and performance of quoted Nigerian construction firms. Specifically, the objectives of the study

are to: ascertain the degree in which pollution control cost affect return on assets of quoted construction firms in Nigeria, determine the dimension with which environmental protection cost affect return on assets of quoted construction firms in Nigeria and ascertain the extent environmental recycling disclosure affect return on assets of quoted construction firms in Nigeria. The study adopted Ex Post Facto research design. Hypotheses were formulated in line with the research objectives and tested using linear regression analysis with the aid of SPSS Version 25.0. It was observed that environmental pollution prevention cost, environmental protection cost and environmental recycling disclosure have positive and significant effects on return on assets of quoted construction firms in Nigeria.

Methodology

Specifically, in this study, *ex-post facto* research design was employed. The population of the study consist of all the oil and gas companies listed on the floor of the Nigerian Exchange Group for the period between 2014 and 2023. As at 31st December, 2023 the total number of listed oil and gas companies were nine (9). This study employed purposive sampling technique to select the sample size of seven (7) oil and gas companies in Nigeria. Secondary data was sourced from the Nigerian Exchange Group fact books and related companies' annual financial reports.

Model Specification

Specifically, the authors modified the models of Laskar (2020), He et al., (2016), Hardivansah and Agustini (2020) and Ermawati (2020) to specify the functional form of the model as:

$Y = f(X)$

Firm Performance = f (Emission & Energy, Effluent & Waste, Compliance to Environmental Regulations, Firm Size, and Firm Age) ……. (1)

But the econometric function is presented as:

$ROAit=\beta 0+\beta_1 EMEDit+ \beta_2 EWADit+ \beta_3 CERGit+ \beta_4 FSIZit+ \beta_5 FIRAit+ \mu it$….. (1)

$ROEit=\beta 0+\beta_1 EMEDit+ \beta_2 EWADit+ \beta_3 CERGit+ \beta_4 FSIZit+ \beta_5 FIRAit+ \mu it$….. (2)

Where:

ROA	=	Return on Asset
ROE	=	Return on Equity
EMED	=	Emission and Energy
EWAD	=	Effluent and Waste
CERG	=	Compliance to Environmental Laws and Regulation
FSIZ	=	Firm Size
DETA	=	Leverage

Results and Discussion

Descriptive Statistics

The descriptive statistics of this study is presented and discussed below:

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
roa	70	2.201236	22.01981	-71.36	176.27
roe	70	13.53708	108.2926	-393.97	872.2
emed	70	.0786517	.2707195	0	1
ewad	70	.1123596	.3175976	0	1
cerg	70	.1011236	.3032005	0	1
fsiz	70	7.785281	.4895617	6.52	9.03
deta	70	76.21764	25.11955	50.17	247.85

Source: Author's Computation (2025)

The table above shows the descriptive statistics for this study. From the table it is observed that the average value of return on asset for the sample firms was 2.20 with a standard deviation of 22.20. The study also find that return on equity has a mean of 13.54 with a standard deviation of 108.29. In the case of the independent variables, the table shows that emission and energy disclosure have a mean of 0.08 with a standard deviation of 0.27. Effluents and waste have a mean of 0.11 with a standard deviation of 0.32. Compliance to environmental regulation disclosure has a mean of 0.10 with a standard deviation of 0.30. For the control variable, we find that firm size has a mean of 7.79 with a standard deviation of 0.49 while leverage has a mean of 76.22 with a standard deviation of 25.12.

Regression Analysis

Table 2: Model 1-Return on Asset

Variables	Emission & Energy	Effluents & Waste	Compliance to Regulation	Firm Size	Leverage
Panel Least Square Model					
Coefficient **t_ Statistics** **Probability_t**	-23.232 (-2.53) {0.013} **	-1.138 (-0.14) {0.887}	0.787 (2.69) {0.018} **	-3.790 (-0.74) {0.463}	-10.256 (-0.95) {0.347}
F_ Stat = 7.78, Prob_ F = 0.0000, R^2 = 0.3987, Het = 0.905, Model Spec = 0.151, Func. Form = 0.228 VIF = 1.14, OVB = 0.6342					

Source: Author's Computation (2025)

The table above show a summarized result obtained from panel least square regression model of return on asset. Specifically, the study provide interpretation and make policy recommendation with this model since all necessary diagnostic test indicate non-violation of least square assumption as shown in the table above. The model goodness of fit as captured by the F statistics (7.78) and the corresponding probability value (0.0000) shows a 1% statistically significant level suggesting that the entire model is fit and can be employed for interpretation and policy implication.

Furthermore, the model is consistent with the assumption of homoscedasticity and multicollinearity evidenced from the probability value of Heteroscedasticity = 0.905 and mean VIF = 1.14 respectively. The assumption of appropriate functional form as well as providing a well specified model were equally taken care off. These can be seen from the table above as Func. Form = 0.228 and Model Spec = 0.151 respectively. The study obtained a probability value of OVB = 0.6342 which shows that the model is free from the consequences of omitted variable bias. The return on asset regression result above reveal an R^2 value of 0.3987 indicating that about 40% of the variation in the dependent variable has been explained by all the independent variables in the model. This also means that about 60% of the variation in the dependent variable is left unexplained but have been captured by the error term.

Table 3: Model 2 - ROE Model

Variables	Emission & Energy	Effluents & Waste	Compliance to Regulation	Firm Size	Leverage
Panel Least Square Model					
Coefficient **t_ Statistics** **Probability_t**	-39.251 (-0.85) {0.400}	-22.556 (-0.56) {0.579}	7.665 (0.19) {0.848}	-45.563 (-1.75) {0.084}	13.467 (0.25) {0.807}
F_ Stat = 0.56, Prob_ F = 0.7575, R^2 = 0.0397, Het = 0.001, Model Spec = 0.516, Func. Form = 0.810, VIF = 1.14, OVB = 0.8104					
Robust Regression Model					
Coefficient **t_ Statistics** **Probability_t**	-18.740 (-2.36) {0.021}	-0.986 (-0.14) {0.887}	1.752 (0.26) {0.797}	-8.896 (-2.00) {0.049} **	65.338 (6.95) {0.000} ***
F_ Stat = 9.18, Prob_ F = 0.0000					

Note: t & z -statistics and respective probabilities are represented in () and {}
Where: ** represents 5% & * represent 10% level of significance, * represents 1%**
Source: Author's Computation (2025)

The market performance model of return on equity shown in table 4.6 above summarizes the result obtained from the panel least square regression and Huber Robust Estimator. The panel least square model goodness of fit as captured by the Fisher statistics (0.56) and the corresponding probability value (0.7575) shows statistically insignificant level suggesting that the entire model is not fit but the model is consistent with the assumption of no multicollinearity evidenced from the probability value (Mean VIF = 1.14) The assumption of appropriate functional form with accurate model specification were equally taken care off. These can be seen from the table above as Func. Form = 0.810 and Model Spec = 0.516 respectively.

The study btained a probability value of OVB = 0.8104 which shows that the model is free from the consequences of omitted variable bias. The return on asset regression results above reveal an R^2 value of 0.0397 indicating that about 4% of the variation in the dependent variable has been explained by all the independent variables in the model. This also means that about 97% of the variation in the dependent variable is left unexplained but have been captured by the error term. Specifically, we provide interpretation and make policy recommendation with the Huber Robust Estimator model after correcting the least square estimator which violated the assumption of homoscedasticity.

Test of Research Hypotheses

Hypotheses One: ***Emission and Energy disclosure has no significant effect on financial performance of Nigerian listed oil and gas companies.***

The regression results obtained from the financial performance models revealed that the variable of emission and energy disclosure has no significant effect on firm financial performance when proxied by return on equity. However, the study found out that emission and energy have a significant effect on financial performance when proxied by return on asset and return on equity during the period under investigation. This finding is revealed as: Return on Asset (Coef. = -23.232, t = 2.53 and P -value = 0.013) and Return on Equity (Coef. = -18.740, t = -2.36 and P -value = 0.021), Following the results above, it is revealed that the effect of emission and energy on firm performance of quoted oil and gas companies in Nigeria is statistically significant. This finding is inconsistent with our stated null hypothesis which leads us to reject the null hypotheses that emission and waste disclosure has no significance effect on financial performance of quoted oil and gas firms in Nigeria.

Hypotheses Two: ***Effluent and Waste disclosure has no significant effect on financial performance of Nigerian listed oil and gas companies.***

The regression results obtained from all two financial performance models of return on asset and return on equity revealed that the variable of effluent and waste disclosure has no significant effect on firm financial performance during the period under investigation. This finding is consistent across all three different measures of financial performance as follows: Return on Asset (Coef. = -1.138, t = -0.14 and P -value = 0.887) and Return on Equity (Coef. = -0.986, t = -0.14 and P -value = 0.887), Following the results above, it is revealed that the effect of effluent and waste disclosure on firm performance of quoted oil and gas companies in Nigeria is not statistically significant. This finding is consistent with our stated null hypothesis which allows us to accept the null hypotheses that emission and waste disclosure has no significance effect on financial performance of quoted oil and gas firms in Nigeria.

Discussion of Findings

As the public is increasingly concerned about the environment, the government requires business to take more responsibility for resolving environmental problems. In this

instance, pressure from government agencies on firms to make more environmental expenditure comes with a cost on the corporation since emission and energy disclosure might drastically increase its production costs, such as material and electricity costs, and negatively affect its profitability. This is in line with our findings which buttresses the study outcomes of Chen and Cheng, (2017); Cao et al., (2017); Chong et al., (2017); Yang et al., (2017); Dechezleprêtre and Sato (2017); Chong et al., (2016). Environmental expenditure includes all expenditures on environmental protection to prevent, reduce, and control environmental aspects, impacts, and hazards, in addition to disposal, treatment, sanitation, and clean-up expenditures. As such, the firm can expect that by increasing its environmental expenditure, it can better respond to government regulations and public requirements.

However, as mentioned earlier, the problem is that increasing environmental expenditure might dampen the firm's profitability which is clearly revealed in this study. There are several explanations for this detrimental consequence. If the firm decides to pass environmental expenditure to its product price in the competitive market, its sales might go down, as does its profit. Moreover, if the firm allows the environmental expenditure to crowd out other productive investments for innovation and efficiency improvement, it reduces the firm's potential to earn profit. Hence the outcome of this study is also seen to be consistent with those of Eiadat et al. (2008) who argued that the ever-growing demands on firms to protect the environment could increase capital and labor cost, divert management attention, and crowd out productive investments. Furthermore, we align our findings to that of McGuire (1982) who documents that excessive environmental expenditure could crowd out the firm's productive investment in innovation and thus reduce its efficiency to a great extent. Hence the question; is it possible for the firm to overcome the trade-off relationship between the firm's environmental expenditure and its profitability?

Conclusion and Recommendations

The issue of environmental reporting is increasingly by becoming a serious issue. Hence, environmental disclosure practices have gathered great momentum in recent years. Similarly, Olanrewaju and Johnson-Rokosu (2016) declare that before now annual financial and non-financial disclosure of most listed companies disregard multiple dimensions of corporate value. Most companies are concerned about creating wealth and distributing it in form of dividend to shareholders, while neglecting other stakeholders.

In the light of this, the empirical result of this study shows that out of the three variables of environmental disclosures used in this study; compliance to environmental regulation disclosures as well as emission and energy disclosure have significant effect of the financial performance of oil and gas firms in Nigeria, while effluents and waste disclosure has been found to not have any significant effect on the performance of oil and gas firms in Nigeria.

Following the empirical evidence recorded in this study, the study recommended the following:

1. To mitigate the negative relationship between emission and energy disclosure and financial performance managers must develop a strong capability to identify and solve diverse managerial problems through creative ways. This capability does not have to be specifically related with the environmental aspects only, but it can be a broad or general competence to innovate, which is closely linked with the firm's overall research and development capability.
2. Insufficient disclosure of environment related issues as recorded in this study can be addressed when environmental regulatory agencies complimented by governments prescribed environmental information disclosure standard are put in place. Compliance should be made mandatory for all companies because standard environmental disclosures are useful information for all stakeholders in decision making.

Contribution to Knowledge

The study contributes to knowledge by empirically examining the effect of environmental reporting disclosure on firm performance of oil and gas firms in Nigeria. While previous study focused on one aspect of financial performance such as return on asset, this study examines firm performance in the three dimensions.

References

Adamu, A., & Yusuf, I. (2024). Audit committee independence and environmental reporting quality in Nigeria. *Journal of Accounting and Corporate Governance, 16*(1), 45–68.

Adebayo, T., & Ezejiofor, R. (2024). Voluntary environmental disclosure and corporate performance of quoted manufacturing firms in Nigeria. *Nigerian Journal of Management Studies, 19*(2), 112–132.

Adekunle, S., & Okorie, U. (2024). CEO tenure and firm profitability: New evidence from Nigeria's consumer goods sector. *West African Journal of Industrial and Academic Research, 28*(1), 78–98.

Ajayi, L., & Nwachukwu, C. (2024). The effect of CEO duality on firm performance in Nigeria: An updated analysis. *African Journal of Economic and Management Studies, 15*(2), 134–156.

Arumona, J., Okeke, P., & Nwosu, E. (2024). Environmental disclosure and financial performance of quoted oil and gas companies in Nigeria: A panel data analysis. *International Journal of Accounting and Finance, 13*(2), 67–92.

Atang, E., & Eyisi, S. (2024). Determinants of environmental disclosures of listed manufacturing firms in Nigeria. *Journal of Corporate Governance Research, 10*(1), 45–72.

Awa, F. N., Ogbonna, G. N., & Nwaiwu, J. N. (2024). Environmental accounting information disclosures and financial performance: Evidence from cement manufacturing companies in Nigeria. *International Journal of Accounting and Finance, 13*(1), 23–48.

Chika, E., & Ogunleye, T. (2024). CEO gender and profitability of quoted consumer goods companies in Nigeria: A contemporary analysis. *Gender in Management: An International Journal, 39*(2), 312–335.

Fakoya, M., & Lawal, A. (2024). Environmental accounting and quality of accounting disclosures of shipping firms in Nigeria. *Journal of Accounting and Taxation, 16*(3), 89–112.

Falope, F. J., Afolabi, T. S., & Adeyemi, S. B. (2024). Environmental disclosure and performance of quoted Nigerian construction firms: New empirical evidence. *Journal of Accounting and Taxation, 16*(2), 78–102.

Georgakakis, D., Heyden, M. L., & Oehmichen, J. (2024). Stakeholder theory and corporate governance: Contemporary perspectives. *Journal of Management Studies, 61*(3), 567–598.

Hameed, I. (2024). How does CEO ethical leadership transform SMEs into green firms? A moderated mediation model. *Corporate Social Responsibility and Environmental Management, 31*(1), 15–30.

Hassan, M., & Bello, A. (2024). Corporate governance and financial reporting timeliness: The moderating effect of audit committee independence in Nigerian listed firms. *International Journal of Business and Management, 19*(2), 145–168.

Ismail, M., Musa, I., & Garba, U. (2024). CEO financial expertise and environmental reporting quality: Evidence from Nigerian listed firms. *African Journal of Accounting and Finance, 16*(1), 156–182.

Karel, J. (2024). Regulatory efficiency and environmental reporting timeliness: A comparative study of emerging markets. *Journal of Financial Regulation and Compliance, 32*(2), 245–272.

Kim, J., & Lee, S. (2024). Legitimacy theory and corporate environmental disclosure practices in emerging economies. *Sustainability Accounting, Management and Policy Journal, 15*(2), 312–338.

Krause, R., Semadeni, M., & Cannella, A. A. (2024). Leadership styles and environmental reporting timeliness: The role of transformational CEOs. *Strategic Management Journal, 45*(2), 456–485.

Minh, T., & Afifa, M. (2024). The effects of CEO ownership on environmental disclosure practices: Evidence from Southeast Asia. *Asian Review of Accounting, 32*(1), 89–118.

Neffe, T., Schulz, M., & Wagner, P. (2024). CEO tenure and environmental reporting quality: Evidence from European firms. *Journal of Management & Governance, 28*(1), 67–98.

Obeng, C., Asiedu, K. F., & Acheampong, J. (2024). Audit committee independence, financial expertise, and environmental reporting timeliness: Evidence from emerging economies. *Journal of Corporate Governance Studies, 17*(1), 112–142.

Okika, N., Okafor, T., & Ezeh, A. (2024). CEO share ownership and environmental reporting timeliness: Evidence from Nigeria. *Nigerian Journal of Accounting and Finance, 13*(1), 56–82.

Okonkwo, I., & Aremu, Y. (2024). CEO duality and corporate environmental reporting in Nigeria. *Journal of Corporate Governance Research, 10*(2), 34–58.

Okorie, P., & Hassan, F. (2024). CEO age and financial performance of listed manufacturing firms in Nigeria: A curvilinear analysis. *Journal of Economics and Business Research, 30*(1), 156–182.

Olowookere, J., Adeyemi, S., & Ogunleye, T. (2024). Environmental accounting disclosure and financial performance of listed cement companies in Nigeria. *Journal of Accounting and Finance, 24*(2), 89–115.

Omaliko, E., Nwadiaru, S., & Okeke, P. (2024). Social and environmental disclosures and performance of non-financial firms in Nigeria: A comprehensive analysis. *Journal of Accounting and Finance, 24*(3), 134–162.

Prabhu, N., & Srivastava, A. (2024). CEO international experience and corporate environmental transparency. *International Business Review, 33*(2), 112–136.

Rahman, M., Hassan, Y., & Ali, M. (2024). CEO characteristics and environmental disclosure practices: A systematic review and meta-analysis. *Journal of Corporate Finance, 21*(1), 78–112.

Rosly, A. S. (2024). Environmental reporting timeliness: Concepts, determinants and implications for firm performance. *Journal of Financial Reporting and Accounting, 22*(2), 145–178.

Safittri, N. (2024). Corporate governance structures and environmental reporting speed: A multi-country analysis of emerging markets. *Journal of International Accounting, 59*(1), 34–68.

Sinaga, P. (2024). CEO attributes and corporate environmental disclosure timeliness: The role of board oversight. *Journal of Corporate Governance and Finance, 21*(1), 134–168.

Terkende, B. (2024). CEO selection processes and environmental governance effectiveness: A comparative study of African firms. *Journal of Management and Economics, 19*(2), 98–128.

Usman, A., & Bello, R. (2024). Does CEO educational qualification matter for environmental and financial performance in Nigerian firms? *Journal of Education and Work, 37*(2), 267–298.

Vo, X. V., Nguyen, T. T., & Pham, T. K. (2024). CEO tenure and corporate environmental policies: A stewardship perspective. *International Review of Finance, 24*(1), 156–189.

Zadeh, M. H., Magnan, M., & Cormier, D. (2024). CEO characteristics and corporate environmental legitimacy: The role of disclosure quality. *Journal of Business Ethics, 189*(2), 345–378.