Environmental Disclosure and Corporate Performance in Nigeria

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Abstract

Research Purpose: With growing global emphasis on corporate social responsibility and sustainability, this study investigates the impact of environmental disclosure on the corporate performance of oil and gas firms in Nigeria. It focuses on the effects of health, safety, and environmental expenses on Return on Assets (ROA) and Earnings Per Share (EPS).

Methodology: A descriptive and ex-post facto research design was adopted, utilising panel data from nine oil and gas firms listed on the Nigerian Stock Exchange. Hypotheses were tested using Ordinary Least Square Regression analysis and content analysis.

Findings: The results indicated that health, safety, and environmental expenses significantly affect both Return on Assets and Earnings Per Share of oil and gas firms in Nigeria.

Conclusion: Active engagement in environmental activities by oil and gas companies in Nigeria significantly enhances their financial performance. Environmental costs are shown to have a significant relationship with financial performance at a 5% significance level.

Recommendations: Management should increase environmental spending and disclosure to boost stakeholders' trust and transparency, ultimately leading to better financial performance.

Key words: *Environmental Disclosure, Financial Performance, Return on an Asset, Oil, Gas Firms.*

1.0 Introduction

In the past few decades, accounting disclosure relating to environmental activities has gained prevalence as well as taken centre stage recently on the agenda of countries whose firms or corporations engage in activities that may affect the environment adversely as well as affect the matrix of financial reporting which should conform to globally accepted standards. The increasing need for corporate entities to disclose environmental

information in their annual reports is due to reasons such as demand by corporate stakeholders, pressure from regulations, power of environmental groups, influence of competitors, and improving corporate productivity (Adewale & Akomolafe, 2017). Thus the increasing demands for clear and hard facts about the corporate environmental performance of organisations by an increasingly well informed breed of stakeholders have made corporate environmental disclosure an essential issue of debate (Emeka-Nwokeji & Okeke, 2019). Environmental accounting is an inclusive field of accounting. It provides reports for both internal use generating environmental information to help make management decisions on pricing, controlling overhead and capital budgeting and external use, disclosing environmental information of interest to the public and to the financial community (Dibia & Onwuchekwa, 2015). The current position of environmental accounting reporting and disclosures might best be described as full of ambiguity. Statutory, regulatory, quasi-regulatory agents and standard setters are yet to prioritise the reporting and disclosure of environmental.

Over the years, the assessment of environmental impact and disclosure by companies has become imperative, and this has also taken different dimensions (Ofoegbu, Odoemelam & Okafor, 2018). The necessity for environmental assessment disclosure is geared towards providing a sustainable environment that will be conducive for human and corporate organisations to operate efficiently and effectively (Ofoegbu et al., 2018). Environmental accounting has attracted international communities and environmental bodies for its role in increasing transparency and disclosure in corporate reports (Islam, 2010). Environmental accounting is essential and relevant in sustainability reporting because studies reveal that it is a factor that influences the level of firm financial performance (Omer & Andrew, 2014). Through environmental disclosure, firms plan how effectively they have performed; in promoting sustainability, accountability, and transparency (Ajibolade & Uwuigbe, 2013). Several definitions have been proffered for Environmental Accounting. According to the US Environmental Protection Agency (1995), Green Accounting or Environmental Accounting is defined as, Identifying, and measuring the costs of environmental materials and activities and using this information for environmental management decisions. The purpose is to recognize and seek to mitigate the negative environmental effects of activities and systems.

International corporations, especially those in the oil and gas industries, are faced with incidents resulting in calamities affecting the environment, such as oil spillage, oil tankers collusion, fuel tanks explosion, gas flaring and so on (Elajayash et al., 2013). Donwa (2011) asserts that host communities strongly believe that oil companies show high levels of

neglect to environmental damages caused by their operations, leading to continuous agitations by those inhabiting the immediate community. This neglect and avoidance of environmental sustainability accountability leaves a wide gap in financial information reporting and breeds incompleteness and correctness of fair view to users of financial information (Ludema et al., 2012). Also, conventional approaches of cost accounting have become inadequate since the practices have ignored important environmental sustainability elements (Iwata & Okada, 2010; Rakos & Antohe, 2014).

In 2010, Africa accounted for 13% of global oil production, with Sub-Saharan Africa, (SSA) (which is the focus of this study), contributing 7.25% accounting for more than half of total oil production (Baumuller et al., 2011). Most of the Sub-Saharan oil production takes place in Nigeria and Angola while other African countries produce on smaller scales or are still in the exploratory phase. Baumuller et al. (2011) stated that the European Union relied on SSA for around 7% of its oil imports, amounting to about 314 million barrels worth $65 billion. However, due to uncontrolled production activities emanating from "leakages" in regulatory framework and weaknesses in environmental sustainability policy implementation, issues related to energy and emissions, effluents and waste, biodiversity and water and other related global warming agents have been documented to pose huge environmental threat (Umoren et al., 2018).

Several studies have examined the effect of environmental sustainability disclosure on firm financial performance but most of these existing studies have been country-specific (e.g. Dibia & Onwuchekwa, (2015); Utile, (2016). Collectively, these studies show that corporate environmental reporting is necessary for improving firm performance. Extant literature shows that most cross-country studies have been conducted within the confines of developed countries. It is against this backdrop that the study examined Environmental disclosure and Corporate Performance in Nigeria.

Statement of the Problem

Environmental accounting serves as a systematic approach in managing the environmental aspects of company activities. The shift in business economics towards environmental issues has led to the realisation of the increasing importance of research in environmental accounting. Environmental accounting points to the fact that companies influence their external environment both positively and negatively through their activities and should therefore, account for these effects as part of their standard accounting practices. Environmental accounting offers an alternative account of significant economic entities, and thus, has the "potential to expose the tension between pursuing economic profit and the pursuit of environmental objective"

However, environmental reporting has developed rather voluntarily and this implies that companies can choose what to disclose and may even decide not to. Research attention (Sharfman and Fernando 2008; Schneider 2010; Roberts 1992; Mgbame 2012) in this regard has been focused largely on why and what factors could influence a company to engage in environmental disclosures voluntarily.

Consequently, the absence of comprehensive and verifiable information on environmental practices of companies may signal a practice where companies can pollute the environment and yet appear more economically efficient than others which incur costs to protect the environment.

Objectives of the Study

The broad objective of the study is to examine the Environmental disclosure and Corporate Performance in Nigeria. The specific objectives of the study were to:

i. Establish the effect of Health Safety and environmental expenses on Return on Asset of oil and gas firms in Nigeria;

ii. Determine the effect of Health Safety and environmental expenses on Earnings Per Share of oil and gas firms in Nigeria.

Research Questions

The following research questions were asked:

i. What effect does Health Safety and environmental expenses have on Return on Asset of oil and gas firms in Nigeria?

ii. To what extent has Health Safety and environmental expenses effect on Earnings Per Share of oil and gas firms in Nigeria?

Statement of Hypotheses

The following null hypotheses are formulated for the study.

i. Health Safety and environmental expenses have no significant effect on Return on Asset of oil and gas firms in Nigeria.

ii. Health Safety and environmental expenses have no significant effect on Earnings Per Share of oil and gas firms in Nigeria.

Scope of the Study

The study covered Environmental disclosure and Corporate Performance in Nigeria. Three firms from the oil and gas sector were chosen. The study covers the period between 2014 and 2021.

2.0 REVIEW OF RELATED STUDIES

Conceptual Review

Environmental Disclosure

Environmental disclosure as a concept connotes the information or data usually of a financial nature, describing the activities of organisations that are engaged in economic activities, in this case oil companies in Nigeria as they relate to their adherence to regulations and best practices as well as portraying the impact of such activities upon the environment, geographical space and or land area. The concept of environmental disclosure reporting gained greater publicity right from the United National conference on environmental and development (UNCED) held in Rio de Janeiro in June 1992. Ishak (2010) defined environmental disclosure as an environmental management strategy to communicate with stakeholders. Environmental disclosure is as well commonly regarded as corporation social responsibility reporting (Degan, 2007). Meanwhile, parker (1986) as cited in Setyorim and Ishak (2010) defined corporate environment disclosure as the reporting by corporate environment disclosure as the reporting by corporation on the social impact of corporate activities, the effectiveness of corporate social programs, as a way corporation's discharging of its social responsibility and the stewardship of its social resources in all.

Environmental disclosure means that a firm is obligated by law to include environmental information in annual reports, either voluntarily or statutorily. Environmental disclosure also communicates relevant information to stakeholders and society as a whole as a result of the company's actions as they influence the environment. According to Panigrati (2015), environmental disclosure is information that is presented to analyse a company's environmental conduct and the economic consequences of that activity. It includes both financial and non-financial information. Environmental disclosure is defined by Ejoh, Orakand, and Sakey (2014) as a set of information about a company's past, current, and future environmental operations. Environmental disclosure, according to Ong, Tho, Hoh Thai, and The (2016), is a declaration that demonstrates a company's environmental efforts, such as the company's aims, environmental policies, and environmental consequences, which are documented and published annually to the general public. Environmental disclosure, according to Dibia and Onwuchekwu (2015), aids corporations in capturing public opinion of their operations. Because of the importance of the

environment and the devastating impact of companies' activities on the environment, environmental disclosure serves as a medium of communication between the company and stakeholders. Disclosure is required because of the importance of the environment and the devastating impact of companies' activities on the environment (Abubakar, Moses & Inuwa, 2017).

According to the above writers, environmental disclosure refers to information regarding environmental actions that occurred in the past, present, or future, and should be revealed to the public on an annual basis. This data might be in the form of financial and non-financial data, and it can be quantitative or qualitative. Environmental disclosure refers to all information on the environment that is reported or made available in the annual report of the company. Environmental disclosure has been quantified both quantitatively and subjectively using content analysis and the environmental disclosure index. According to a study of the literature, several studies measured environmental accounting disclosure using both quantitative and qualitative methods. Both methodologies were utilised by researchers such as Abubakar, Moses, and Inuwa (2017), Adams and Busola (2017), Ong et al., (2016), and Buniami (2010) to measure environmental accounting disclosure of companies.

The use of objective and systematic counting and recording processes to provide a description of the content in text, according to Neuman (2011), is a quantitative approach to environmental disclosure. According to Ong et al., (2016), the quantity of environmental accounting disclosure can be quantified using content analysis, which is regarded as the most widely used technique in prior studies. It can be quantified in terms of the number of words, sentences, and pages. Annual reports of companies contain both financial and non-financial data; financial data may be easily analysed using financial ratios, while non-financial data can be interpreted using a research tool called content analysis (Adams & Busola 2017).

Corporate Performance

Corporate performance management **improves the capability of a business**. It provides three important values to the business. They are information delivery, performance oversight, and performance effectiveness. These values help to understand, manage and improve the business Corporate performance is a composite assessment of how well an organisation executes on its most important parameters, typically financial, market and shareholder performance. Corporate performance analysis is a subset of business analytics/business intelligence (BA/BI) that is concerned with the "health" of the organisation, which has traditionally been measured in terms of financial performance.

However, in recent years, the concept of corporate health has become broader. Corporate financial performance is an overview of the company's financial status report over a period of time to figure out how successful and profitable a company is in producing revenue. Financial performance is one of the most important variables in management research and arguably, the most important indicator of firm growth (Wahla et al., 2012). Lebas & Euske (2006) provide a set of definition to illustrate the concept of firm performance and describe performance as a set of financial and non-financial indicators which offer information on the degree of achievement of objectives and results (Lebas & Euske, 2006; Kaplan & Norton, 1992).

Return on Assets

The term return on assets (ROA) refers to a financial ratio that indicates how profitable a company is in relation to its total assets. Corporate management, analysts, and investors can use ROA to determine how efficiently a company uses its assets to generate a profit. The metric is commonly expressed as a percentage by using a company's net income and its average assets. A higher ROA means a company is more efficient and productive at managing its balance sheet to generate profits while a lower ROA indicates there is room for improvement.

Return on assets is a profitability ratio that provides how much profit a company can generate from its assets. In other words, return on assets (ROA) measures how efficient a company's management is in earning a profit from their economic resources or assets on their balance sheet. ROA is shown as a percentage, and the higher the number, the more efficient a company's management is at managing its balance sheet to generate profits.

Earnings per Share

Earnings per Share is the amount attributable to the ordinary equity holder of a firm. The study makes use of the basic earnings per share and was employed in determining the extent of the effect that Asset Management can have on the corporate valuation index of EPS. This is justified due to the fact EPS is one of the first performance indicators firms usually put out for public notice thereby helping investors to make an informed decision. Earnings per share (EPS) is calculated as a company's profit divided by the outstanding shares of its common stock. The resulting number serves as an indicator of a company's profitability. It is common for a company to report EPS that is adjusted for extraordinary items and potential share dilution.

Theoretical Framework

Stakeholder Theory

In an organisation, there are basically two types of stakeholders (Internal and external). Most internal stakeholder includes management, employee and board while external stakeholder include shareholders, communities, creditors, debtors/customers, government agencies, and environment (Johnson-Rokosu & Olanrewanju, 2016). Basically, stakeholder theory is based on the proposition that a firm's success or otherwise depends on a successful management of all the relationships that a firm has with its stakeholders (Uwuigbe & Jimoh, 2012). It is argued that stakeholder theory is one of the theories that seeks to explain the practice of presenting social information, focused on the role it can play in relations between organisations, governments, individuals, associations and societies in general (Magnaghi & Aprile, 2014). Gray et al (2002), reported that from an organisational point of view, stakeholders' theory is based on a model of accountability for all actors, be it normative, descriptive or the explanatory power they hold in the context of CSR; and includes the responsibilities of the company and the transparent nature of its activities. A crucial element that the company can use to manage stakeholder relationships is precisely the information (financial, sustainability, or both) managed to gain the support and approval of corporate strategy from the stakeholders, without raising an objection. Voluntary disclosure is amply justified by the stakeholder theory and consequently the theory of legitimacy that is considered an appropriate means to maintain and develop relations between the various interest-bearing groups and the company.

Furthermore, stakeholder provides another theoretical framework for explaining the relationship between various stakeholders and management; and potentially useful in examining or influencing corporate social disclosures or sustainability reporting by organisation in the annual corporate reports. Hence, the theoretical framework adopted in this study is the Legitimate Theory of CRS.

In line with this, one of the genuine acknowledgments by industry of a duty to the environment is one reason for the growth of voluntary environmental guidelines and policies. Second, these codes are a response to shareholder, customer, interest group and community pressure on companies to be transparent and accountable in environmental management, allowing industry to demonstrate environmental responsibility and enhancing public relations. Third, companies have adopted these co-operative and flexible approaches to environmental regulation in order to avoid prescriptive and costly command and control mechanisms.

In their separate studies (Watts & Zimmerman, 1978; Pfeffer & Salancik, 1978) asserts that the need to rely on stakeholders to provide resources support and pressure from these stakeholders contribute to certain action, inaction and corporate social disclosure patterns

by the organisation. Similarly, as noted by other scholars, ethical managers do not wait to be informed to do this disclosure, however they just engage in it on their own thereby winning the trust and confidence of their stakeholders (Ordu & Okorafor, 2014). For example, the restless nature of militancy in Niger Delta; frequent attacks on oil installations and kidnapping of foreign nationals to draw attention to environmental pollution and degradation, forces major oil companies to have a rethink, become socially responsible and discloses information on environment, social and governance in their corporate reports. This example collaborated with the submission of Uwuigbe & Jimoh, (2012) that the more powerful the stakeholders, the more the company must adapt. (Johnson – Rokosu & Olaranwanju, 2016).

Empirical Review

Aluwong and Fodio (2019) investigates the influence of corporate attributes on environmental disclosure by oil companies in Nigeria. The study uses secondary data collected from the annual reports and accounts of 9 randomly selected oil companies for the period 2011 to 2017. The study analysed the data using the logistic regression technique. The study finds that corporate attributes significantly affect the environmental accounting disclosure by oil companies in Nigeria. Based on the findings, the study concludes financial leverage has a significant positive effect on environmental accounting disclosure by oil companies in Nigeria. Second, profitability has a significant positive effect on environmental accounting disclosure by oil companies in Nigeria. Third, the study also found that firm size has a significant positive effect on environmental accounting disclosure. Fourth, the study finds a positive but insignificant effect of auditor types on the environmental accounting disclosure by oil companies in Nigeria.

Emmanuel, Elvis and Abiola (2019) studied environmental accounting disclosure and performance of listed Companies in Nigeria from 2007 –2016. Data were analysed through the use of multiple regression. The result of the study shows that non-financial indicators of environmental disclosure have a positive significant effect on performance, while performance indicators of environmental accounting disclosure have no effect on performance of firms.

Yahaya (2018) examined the environmental disclosure and financial performance of Listed Environmentally –Sensitive Firms in Nigeria. Data were analysed using descriptive statistics, correlation analysis and multiple regression. The result indicated that environmental disclosure and financial performance have positive and significant relationships.

Oti and Ogar (2018) examined the impact of environmental and social disclosure on financial performance of selected oil and gas companies on the Nigerian Stock Exchange over a period of five years from 2012-2016. Data were extracted from the annual reports and accounts of five sampled oil and gas companies. Ordinary least square regression was used to analyse the data. The study revealed that environmental and social disclosure positively affects financial performance.

Ezeagba, Racheal, and Chiamaka (2017) conducted a study that investigated the relationship between environmental disclosure and financial performance companies in Nigeria for a period of ten years from 2006-2015. Data were analysed using multiple regression. The study found a significant relationship between environmental disclosure and financial performance of companies.

Gatimbu and Wabwire (2016) assessed the effect of corporate environmental disclosure on financial performance of sixty-one listed firms at the Nairobi Securities Exchange, Kenya. This study made use of longitudinal secondary data from the annual reports and financial statements of listed companies at the Nairobi Securities Exchange. Content analysis of sampled listed companies' annual reports was undertaken to examine environmental disclosure practices. The results show that environmental disclosure has a positive significant effect on the mean financial performance.

Wasara & Ganda (2019) investigated the relationship between corporate sustainability disclosure and financial performance in terms of return on investment (ROI) among ten (10) companies listed on the Johannesburg Stock Exchange for a period of five years from 2010 to 2019. Data was extracted from a corporate sustainability report and measured using the content analysis approach. Adopting the multi-regression analysis, the results revealed that there is a positive association between social disclosure and return on investment but revealed a negative relationship between environmental disclosure and return on investment. This implies that an increase in the reporting of social issues led to an improved financial performance in terms of return on investment.

Nwaiwu and Oluka (2018) examined environmental cost disclosure and financial Profitability of oil and gas in Nigeria. Time series data were collected from annual financial reporting and economic review of Central Bank of Nigeria; Pearson product moment coefficient of correlation and multiple linear regression analysis with the aid of special package for social sciences (SPSS) version 22. The econometric results reviewed adequate disclosure on environmental cost, compliance to corporate environmental regulations have positive significant effect on financial Profitability measures.

Nnamani, Onyekwelu and Ugwo (2017), evaluated the effect of sustainability accounting on the financial Profitability of listed manufacturing firms in Nigeria. Firms used for the study were chosen from the Nigerian brewery sector. Data were sourced from the financial statements of three sampled firms. Data were analysed using ordinary linear regression. The study reveals that sustainability reporting has a positive and significant effect on financial Profitability of firms studied.

Malarvizhi and Ranjanni (2016) conducted a research to examine whether there is any significant relationship between Corporate Environmental Disclosure (CED) and firm Profitability of selected companies listed in Bombay Stock Exchange (BSE), India. They use content analysis methodology by developing an environmental disclosure index (EDI) and formulating hypotheses to test the association between firm Profitability and level of environmental disclosure. Primary data was collected using a questionnaire instrument. A regression model with EDI as dependent variable and return on capital employed (ROCE), return on assets (ROA), net profit margin (NPM) and earnings per share (EPS) as independent variables is used to analyse data for this research. Results show there is no significant relationship between the level of environmental disclosure and firm performance.

Raymond, John, Racheal and Ben (2016) in their work, assessed the effect of sustainability accounting measures on the Profitability of corporate organisations in Nigeria. Ex post facto research design and time series data were adopted. Data for study was collected from annual reports and accounts of the company in Nigeria. Formulated hypotheses were tested using Regression Analysis with aid of SPSS Version 20.0. Based on the analysis, the study found that environmental cost does not impact positively on revenue of corporate organisations in Nigeria, also that environmental cost impacts positively on profit generation of corporate organisations in Nigeria.

3.0 METHODOLOGY

Research Design

This study adopted the *ex-post facto* and longitudinal methods based on the existence of data needed for analysis, on one hand and given the time series data the relevant variables for the years. Consequently, the population was designed in terms of content, extent and time. The *ex-post facto* research design was used, because this study involves the events that have already taken place in the past

Source of Data

This study made use of secondary data obtained from the Nigerian Stock Exchange.

Area of the Study

This study is centred on the Oil and Gas Sector of the Nigerian economy.

Population

The target population of this study consisted of Nine Oil and Gas Firms in Nigeria that duly registered with the Nigerian Stock Exchange.

Sample Size Determination

The study selected Conoil and Oando Nigeria limited. The choice of Conoil and Oando Nigeria limited were based on the fact that they firm was found to have disclosed their environmental expenses.

Model Specification

We present the model under study as follows.

$Y = f(x)$

$Y = f(HSEE)$

The model was stated in line with the hypotheses earlier stated.

$ROA: = \beta o + \beta_1 \mathbf{HSEE} + U_1$.....i

$EPS: = \beta o + \beta_1 \mathbf{HSEE} + U_1$.....ii

ROA	=	Return on Asset
EPS	=	Earnings Per Share
HSEE	=	Health Safety and environmental expenses

Where

βo	=	Constant Term
β_1	=	Coefficient
μ	=	Error Term

Description of Variables

The research work is describing as follows:

Dependent Variable:

Return on Asset

Earnings Per Share

Independent Variables

Health Safety and environmental expenses

Method of Data Analysis

Historical data covering a period of 10 years estimated using Autocorrelation test, it often occurs in time series data and it can make an OLS inefficient for drawing inferences. It affects the standard error as well as the t-statistics. A Bound test is a test for measuring long run relationships. It measures whether a long run relationship exists between the independent variables and the dependent variable.

Data Presentation and Analysis

Table 4.1.1: Panel Data for the Focal and Explanatory Variables

FIRM	YEAR	ROA	EPS	HSEE
			₦0'000	₦0'000
CONOIL NIG PLC	2020	0.03	208	13849
CONOIL NIG PLC	2019	0.05	284	20029
CONOIL NIG PLC	2018	0.42	259	25542
CONOIL NIG PLC	2017	0.04	227	29141
CONOIL NIG PLC	2016	0.06	409	26000
CONOIL NIG PLC	2015	0.03	333	26000
CONOIL NIG PLC	2014	0.01	120	29392
CONOIL NIG PLC	2013	0.04	442	26370
CONOIL NIG PLC	2012	0.09	103	22230
CONOIL NIG PLC	2011	0.06	210	14858

Oando Nig. Plc	2020	####	####	1383.9
Oando Nig. Plc	2019	0.64	39	2249.6
Oando Nig. Plc	2018	0..89	197	1462.0
Oando Nig. Plc	2017	0.09	62	1416.0
Oando Nig. Plc	2016	-0.0260	215	13692
Oando Nig. Plc	2015	-0.0330	294	83653
Oando Nig. Plc	2014	-0.2016	1344	95512
Oando Nig. Plc	2013	-0.0079	73	79403
Oando Nig. Plc	2012	0.0209	458.4	76067
Oando Nig. Plc	2011	0.0009	125.8	58719

Source: Annual Reports and Accounts of Sampled FIRM

Table 4.2: Descriptive Statistics

	ROA	EPS	HSEE
Mean	0.072961	289.2333	35784.59
Median	0.035000	221.0000	26000.00
Maximum	0.640000	1344.000	95512.00
Minimum	-0.201600	39.00000	1416.000
Std. Dev.	0.182158	292.5560	29230.26
Skewness	2.000147	2.728621	0.881277
Kurtosis	7.008655	10.63592	2.385824
Jarque-Bera	24.05375	66.06663	2.612856
Probability	0.000006	0.000000	0.270786
Sum	1.313300	5206.200	644122.6
Sum Sq. Dev.	0.564088	1455014.	1.45E+10

Observations	18	18	18

Author's Computation, 2022.

From Table 4.2 the mean (average), maximum values, minimum values, standard deviation and Jarque-Bera (JB) Statistics (normality test) were shown. The results expressed in Table 2 helps to provide some insight into the nature of environmental accounting used in this study. First, it can be observed that on the average, in a 10-year period (2011 -2020), the sampled oil and gas firms used for this study were characterised by positive Return on Asset = 0.072961. Similarly, the table also shows that on the average during the period under study that ROA was 0.072961 the maximum value stood at 0.640000 while the minimum value stood at -0.201600, thus showing a large difference between the minimum and maximum values of the ROA.

Further, the table also shows that on the average during the period under study that Earnings was 289.2333, the maximum value stood at 1344.000 while the minimum value stood at 39.00000.

Furthermore, the table also shows that on the average during the period covered by this study, that Health and Safety Expenses was 35784.59, the maximum value stood at 95512.00 while the minimum value stood at 1416.000.

Lastly, in table 4.2, the Jarque-Bera (JB) which test for normality or the existence of outliers or extreme values among the variables shows that most of the variables are distributed normally at the 1% level of significance ROA, EPS and HSEE that were normally distributed at 5 and 10% level of significance respectively. This implies that any variable with outliers is not likely to distort our conclusion and is therefore reliable for drawing generalisation. This also implies that the least square estimation can be used to estimate the pooled regression model.

Table 4.3: Pearson Correlation Matrix Correlation Analysis Results

	ROA	EPS	HSEE
ROA	1	-0.4557127300599017	-0.5180682588252313
EPS	-0.4557127300599017	1	0.5469686943952399
HSEE	-0.5180682588252313	0.5469686943952399	1

Source: Eviews output version 9

Table 4.3 focused on the correlation between Return on Assets and Earnings Per Share and the independent variable Environmental Accounting measured by Health Safety and environmental expenses. The correlation matrix table shows that most of our independent variables, (= 0.5469686943952399 was observed to be positively associated with Earnings Per Share while Return on Assets was observed to be negatively associated with HSEE.

4.2 Test of Hypotheses

Test of Hypothesis One

Ho: Health Safety and environmental expenses have no significant effect on Return on Asset of oil and gas firms in Nigeria.

Hi: Health Safety and environmental expenses have a significant effect on Return on Asset of oil and gas firms in Nigeria.

Table 4.4: Pooled Ordinary Least Square (OLS) Regression Result

Dependent Variable: ROA

Method: Panel Least Squares

Date: 11/09/22 Time: 08:16

Sample: 2011 2020

Periods included: 10

Cross-sections included: 2

Total panel (unbalanced) observations: 18

Variable	Coefficient	Std. Error	t-Statistic	Prob.
HSEE	-3.23E-06	1.33E-06	-2.422750	0.0276
C	0.188492	0.060884	3.095908	0.0069

R-squared	0.268395	Mean dependent var	0.072961
Adjusted R-squared	0.222669	S.D. dependent var	0.182158
S.E. of regression	0.160602	Akaike info criterion	-0.715332
Sum squared resid	0.412690	Schwarz criterion	-0.616402
Log likelihood	8.437988	Hannan-Quinn criter.	-0.701691
F-statistic	5.869716	Durbin-Watson stat	1.063994
Prob(F-statistic)	0.027638		

Source: Eviews output version 9

In table 4.4, R-squared and its adjusted R-squared values were (0.268395) and (0.222669) respectively. This is an indication that all the independent variables explain about 27% of the systematic variations in ROA of the oil and gas firms under study while 73% of the systematic variations are captured by the error term. The F-statistics of 5.869716 and its P-value of (0.027638) signifies that fact that the regression model is well specified.

Regression coefficient

$$ROA = 0.188492 +- 3.23E - 06$$

Interpretation of Regression Coefficient

Table 4.4 shows that the coefficient of regression results for ROA. The coefficient of ROA is negative for Health Safety and environmental expenses. It indicates that a unit/one naira change in the explanatory variables of Environmental Accounting as explained by Health Safety and environmental expenses, ROA will yield a decrease of -3.23E-06 of the firms.

Decision Rule:

1. Reject Ho if the P-Value cal < 0.05 at 5% level of significance.
2. Otherwise, accept the null hypothesis (Ho).

Decision: From the panel regression analysis in Table 4.4, based on the t-value of -2.422750 and P-value of 0.0276, in table 4.4 was found to Health Safety and environmental expenses have a positive influence on the oil and gas firms' (ROA) and this influence is statistically insignificant at 5% level of significance as the P-value is within 5% significance level. This result, therefore, suggests that we should accept our alternate hypothesis one (H_o) which states that Health Safety and environmental expenses has a significant effect on Return on Asset of oil and gas firms in Nigeria.

Test of Hypothesis Two

Ho: Health Safety and environmental expenses have no significant effect on Earnings Per Share of oil and gas firms in Nigeria.

Hi: Health Safety and environmental expenses have a significant effect on Earnings Per Share of oil and gas firms in Nigeria.

Table 4.5: Pooled Ordinary Least Square (OLS) Regression Result

Dependent Variable: EPS

Method: Panel Least Squares

Date: 11/09/22 Time: 08:43

Sample: 2011 2020

Periods included: 10

Cross-sections included: 2

Total panel (unbalanced) observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
HSEE	0.005276	0.001966	2.683356	0.0157
C	105.1254	87.43243	1.202362	0.2457

R-squared	0.297532	Mean dependent var	284.3789
Adjusted R-squared	0.256211	S.D. dependent var	285.0997
S.E. of regression	245.8792	Akaike info criterion	13.94686
Sum squared resid	1027761.	Schwarz criterion	14.04627
Log likelihood	-130.4952	Hannan-Quinn criter.	13.96368
F-statistic	7.200400	Durbin-Watson stat	3.163898
Prob(F-statistic)	0.015711		

In table 4.5, R-squared and its adjusted R-squared values were (0.297532) and (105.1254) respectively. This is an indication that all the independent variables explain about 30% of the systematic variations in EPS of the oil and gas firms under study while 70% of the systematic variations are captured by the error term. The F-statistics of 7.200400 and its P-value of (0.015711) signifies that fact that the regression model is well specified.

Regression coefficient

$$EPS = 105.1254 + 0.005276$$

Interpretation of Regression Coefficient

Table 4.4 shows the coefficient of regression result for EPS. The coefficient of EPS is negative for Health Safety and environmental expenses. It indicates that a unit/one naira change in the explanatory variables of Environmental Accounting as explained by Health Safety and environmental expenses, EPS will yield a decrease of 0.005276 of the firms.

Decision Rule:

1. Reject Ho if the P-Value cal < 0.05 at 5% level of significance.
2. Otherwise, accept the null hypothesis (Ho).

Decision: From the panel regression analysis in Table 4.5, based on the t-value of 2.683356 and P-value of 0.0157 in table 4.5 was found to Health Safety and environmental expenses have a positive influence on the oil and gas firms' (ROA) and this influence is statistically insignificant at 5% level of significance as the P-value is within 5% significance level. This result, therefore, suggests that we should accept our alternate hypothesis one (H_o) which

states that Health Safety and environmental expenses has a significant effect on Earnings Per Share of oil and gas firms in Nigeria.

Discussion of Findings

The result of hypothesis one revealed that an indication that Health Safety and environmental expenses has a significant effect on Return on Asset of oil and gas firms in Nigeria. Result in table 4.4, revealed that the regression t-value of (-2.422750) and P-value of (0.0276). The finding was in line with the findings of Emmanuel, Elvis and Abiola (2019) who found non-financial indicators of environmental disclosure have a positive significant effect on performance, while performance indicators of environmental accounting disclosure have no effect on performance of firms.

The result of hypothesis two revealed that Health Safety and environmental expenses has a significant effect on Earnings Per Share of oil and gas firms in Nigeria. This is evident from the regression result where the t-value of 2.683356 and P-value of 0.0157, is one that is positive and significant. This study is in partial agreement with the findings of Nwaiwu and Oluka (2018) which revealed adequate disclosure on environmental cost, compliance to corporate environmental regulations have positive significant effect on financial Profitability measures.

Summary of Findings

The following were the findings of the study:

1. The finding indicated that Health Safety and environmental expenses has a significant effect on Return on Asset of oil and gas firms in Nigeria. This suggests that the engagement in environmental activities and accounting is associated with strong corporate performance.
2. Again, it was shown that Health Safety and environmental expenses have a significant effect on Earnings Per Share of oil and gas firms in Nigeria. This suggests that practice of environmental accounting is positively correlated with corporate performance. Firms that have this aspect of accounting disclosure expect more corporate performance levels.

Conclusion

The regression result indicates that Health Safety and environmental expenses significantly influenced the performance of oil and gas firms which was measured by the Return on Assets and Earnings per Share. The study concluded that active participation of oil and gas companies in Nigeria on environmental activities would significantly improve the financial performance of the oil and gas companies in Nigeria. Consequently, this

work supports the growing evidence that environmental costs have a significant relationship and exerts significant effect on financial performance at 5% significance level.

Recommendations

From the findings of the study, we recommend the followings;

i. In view of the significant relationship that exists between environmental accounting and Return on Asset of oil and gas firms in Nigeria., the management of the firms should channel effort on engaging in adequate environmental spending and its disclosure as a way of increasing stakeholders trust and showing more transparency in their operations. This could in turn lead to achieving better financial performance.

ii. Furthermore, functional and intractable environmental accounting units should be created by each oil company to ensure that the companies maintain their guidelines in reporting environmental issues in their annual reports and accounts, this way stakeholders would access this information and even vouch for them as socially responsible and this could bring about more investors to the companies.

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