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EFFECT OF SUSTAINABILITY REPORTING ON CORPORATE FINANCIAL PERFORMANCE OF OIL AND GAS COMPANIES IN NIGERIA

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Abstract

The aim of this study was to determine the effect of sustainability reporting on corporate financial performance of oil and gas companies listed on the Nigerian Exchange Group (NGX). Six (6) of these companies were selected using stratified random sampling technique. The proxies for sustainability reporting include; Environmental Information Disclosure, Social Information Disclosure and Economic Information Disclosure, while the profit for the year was employed as financial performance measure. Data were analyzed using Pairwise Pearson Rank Correlation Coefficient and Panel Least Square (PLS) Regression. Analysis of variance was used to test the hypotheses of the study. It was revealed that environmental information disclosure has insignificant and negative effect on profit for the year, Social information disclosure showcased also an insignificant albeit positive effect on profit for the year. Fortunately, economic information disclosure has very significant and positive impact on profit for the year of the sampled oil and gas companies in Nigeria. Conclusively, sustainability reporting is a key factor for sustainable development. The study, therefore, recommends that the level of environmental information disclosure should reduce fines and penalties, which otherwise could impact negatively on profit; Social information disclosure albeit negative, should be improved upon to achieve community and public confidence, and management of companies should adopt policies or strategies very meaningful to achieving sustainable development.

Keywords: *Sustainability, Reporting, Corporate, Financial, Performance, Environmental.*

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1. Introduction

The shift from a dimensional to three dimensional reporting has attracted much attention in the corporate world in the recent times. This concern may be linked to the growing concern over the deplorable environmental degradation causing pollutions and depletion of natural resources, and social sensitivity due to company's production activities, while in pursuit of its economic objective. Since, business cannot exist in isolation; there is need for company to focus towards environmental and social sensitivity, at the same time enhancing its economic value. The society sees the activities of the business as central to their problems and many are looking up to the business to be part of the solutions (Aondoakaa, 2015). Sustainability Reporting is a broad term generally used to describe a company's reporting or information disclosure on its economic, social and environmental performance. The body of literature around the subject matter is yet to form a consensus on the acceptable understanding of corporate sustainability (Onyali, Okafor, & Egolum, 2014). There are diverse views and interpretations; some believe it is synonymous to triple Bottom Line, while others may refer to it as Corporate Social Responsibility or Sustainable development.

Elkington (1997) noted that sustainability reporting is a shift from corporate main objective of profit maximization, to an all inclusive approach to the environment, integrating accounting and reporting of social costs, environmental costs as well as economic issues, the elements which business has preferred to overlook. This assertion is based on the premise that sustainable reporting, also known as triple bottom line accounting does not only focus on organizational profitability but also the contributions of an organization to its host environment (corporate social responsibility) as well as the management of its environment.

Kevin, Tony, Beate & Tom (2015), they noted that sustainability reporting encompasses meeting the needs of the present generation without compromising the ability of future generation to meet their own needs. To this, Samuel, Aruna, Amahalu & Nestor (2020); has this to say, that sustainable development is forward thinking and focuses on creation of wealth and prosperity, while considering the importance of social and environmental aspects.

According to GRI (2011), Sustainability Reporting is the practice of measuring, disclosing and being accountable to internal and external stakeholders for organizational performance towards the goals of sustainable development. Also, they added that the report inform stakeholder groups of the reporting organization's ability to manage key risks. Also, Dow Jones sustainable index in KPMG (2008) looks at sustainability Reporting as a business approach that creates long term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social developments. This implies that corporate sustainability leaders achieve long term shareholder value by gearing their strategies and management to harness the markets potential for sustainability products and services while at the same time successfully reducing and avoiding sustainability cost and risks. To achieve excellent financial performance requires professionalism, robust strategies to overcome stiff challenges of short-term era. This is evidenced in the operational cycle of multinational firms in Nigeria.

Also, Akabom, Dada and Onyeogaziri (2018) looks at sustainability as focusing on how to organize and manage human activities in such a way that they meet physical and psychological needs without compromising the ecological, social or economic base which enable these needs to be met. In the views of Ali, Haitham, & Nilesh (2018), they described sustainability as meeting the needs of today without compromising future generations' ability to meet theirs. In a nutshell, corporate sustainability can be looked at as the prerequisites for the attainment of sustainable development in a given economy. Management is therefore

challenged to minimize risks, and achieve necessary reduction in operating costs through robust strategies and planning that would be beneficial to the larger society without compromising the needs of future generation.

The move to sustainability reporting created some challenges and prospects for the new concept. For the purpose of measurement the conventional accounting system is ill-equipped to incorporate environmental and social externalities, which are important for sustainable development. Sustainability reporting has led to business success, not just by adding economic values, but also awakening organizational environmental and social responsibilities to the larger society where they operate (Akenbor, 2014; Richard, 2014). Experts opinions have also shown that the integration of three important performance areas: economic, social and environmental; is viewed as a necessary practice for the survival of modern corporations. Today, firms' are beginning to appreciate the importance of sustainability reporting as a major key to unlock progress and development through community environmental and social partnership. Corporate profitability is a measure of financial profit or gain. Firms with good sustainable practices and disclosure of information will increase not just the patronage, but also the key performance indicators necessary for stakeholders and investors decision-making (illiemena & Okolocha, 2019).To achieve this, experienced, proactive and effective leadership would be an added advantage as well as adequate cost control technique.

The quest and greater awareness for sustainability reporting has given rise to the formulation of various international norms or framework to guide human interaction with the environment. These guidelines are meant to re-direct organizational attitude towards sustainable practices, and make the firms' to understand that their business policies or strategies may affect the society, influence behaviours and also disorganize the eco-balance; the environmental, social and economic (Ezeokafor & Amahalu, 2019). In Nigeria, there is no mandatory requirement for comprehensive disclosure of environmental and social information in annual reports of organizations. Though, the nation adopted UN Global Reporting Initiative (GRI) Guidelines for sustainable reporting by organizations across the globe. The implementation and enforceability is still facing some institutional issues. Besides, Petroleum Industry Act of 2021, though ramped in confusion for public acceptability is yet to be implemented. Thus, disclosure of sustainability reporting information in Nigeria is more of voluntary, which may not encourage and support sustainable development.

On the basis of the information, the study therefore seek to evaluate the effect of sustainability reporting dimensions proxy by; environmental information disclosure, social information disclosure, and economic information disclosure on financial performance proxy by Profit for the year of oil and gas companies in Nigeria. Therefore, this study is designed for the understanding of the influence of Environmental, Social, and Economic responsibility on the financial performance of oil and gas firms' quoted in Nigerian Exchange Group (NGX).

Statement of Problem

Sustainability reporting has drawn much attention across the globe and even Nigeria in particular. Businesswise, the challenge facing companies is how to remain sustainable and consistent in operations considering the complexities of operations and huge costs of environmental and social externalities in oil industry. Sustainability reporting avails itself for the evaluation of firms' ethical and sustainable practices of organizations including; the physical, social and economic activities and disclosure of information in the annual reports of companies within a specific period for stakeholders' decision-making.

From the point of view of planning and production processes additional costs are incurred by firms' to prevent environmental degradation or depletion of natural resources and maintenance of social relationship with the communities and larger society including; remediation costs, investment in environmental related matters and pollution control equipment costs, Safety and Health costs. In addition, damage to the corporate image (social costs) including; donations, establishment of social amenities to building or re-construction of educational facilities and scholarship awards are inclusive in the costs incurred by firms in their conscious efforts to achieve sustainable development.

Murray (2010) argued that additional costs associated with environmental and social obligations depresses profitability and sustainable development of firms concerned. No wonder some firms have been closed permanently merged or acquired by more sustainable company because of the greater effect on profit and sustainability of firms'. Most often, the costs item identification and valuation is not easy, leading to omissions, unrealistic or distorted information, which may affect products pricing decision-making. The result of this in most cases is reporting of wrong or excessive financial performance, which will also misdirect decision-makers (Norhasimah et al., 2016).

In recent time, the stakeholders have become more and more concerned on the cost implications of environmental and social liabilities to the firms' performance, hence their desire for firms' compliance to global business footprints on sustainable practices which has become a major policy in most firms' boardroom discussions vis-à-vis Transparency, Accountability, Reliability, Governance issues and Sustainability disclosure requirements in the annual reports. The absence of mandatory reporting and acceptable accounting framework for sustainability reporting is part of the obvious challenges facing the oil and gas industry. However, the justification of the implication of sustainability reporting dimension costs valuation on profit for the year of oil and gas firms in Nigeria has become a major challenge and dilemma for management, researchers and investors.

Various studies have been carryout on the nature of relationship between environmental, social, and economic values and profitability including (Uwaigbe & Uadiale, 2011; Uwaigbe & Jimoh, 2012; and Dibia & Onwuchekwa, 2015). Some studies are positive or negative, while others showed either inconclusive or neutral results. Other loopholes in these studies are the neglect of the aspect of environmental and social cost valuations, reporting and disclosures of the companies.

Also, not much attempt has been made here in Nigeria to study the interplay between sustainability dimension costs; environmental, social and economic cost and profitability of oil and gas companies in Nigeria. Besides, it was observed that all the existing attempts on the subject were quite general in nature and did not focus on the specific item of profitability ratios The basic question which this study is concerned with is whether there exists sufficient evidence to prove that sustainability dimension cost valuation exerts an effect on the corporate profitability of oil and gas companies in Nigeria and hence the justification for this study. This study will apply four (4) different explanatory variables (Environmental Costs, Social costs and Economic costs, with profit for the year as the dependent variable.

Objectives of the study

The broad objective of this study is to evaluate the effect of sustainability reporting on financial performance of oil and gas companies in Nigeria. The specific objectives are:

i. To determine the effect of environmental information disclosure cost on profit for the year of quoted oil and gas companies in Nigeria.

ii. To ascertain the effect of social information disclosure cost on profit for the year of quoted oil and gas companies in Nigeria.
iii. To assess the effect of economic information disclosure cost on profit for the year of quoted oil and gas companies in Nigeria.

Research Questions

The following questions guided the study:

i. What is the effect of environmental information disclosure cost on profit for the year of quoted oil and gas companies in Nigeria?
ii. What is the effect of social information disclosure cost on profit for the year of quoted oil and gas companies in Nigeria?
iii. What is the effect of economic information disclosure cost on profit for the year of quoted oil and gas companies in Nigeria?

Statement of Hypotheses

The following hypotheses in null form guided the study:

i. Environmental information disclosure cost has no positive effect on profit for the year of quoted oil and gas companies in Nigeria.
ii. Social information disclosure cost has no effect on profit for the year of quoted oil and gas companies in Nigeria.
iii. Economic information disclosure cost has no positive effect on profit for the year of quoted oil and gas companies in Nigeria.

The Scope of the Study

The scope of this study is viewed from two perspectives; in terms of variables, four explanatory variables will be employed including; Environmental Information Disclosure, Social Information Disclosure and Economic Information Disclosure Costs, while financial performance will be proxy by profit for the year. The study will cover the period 2012 -2022. The sample size of six (6) oil and gas companies will be drawn from the population size for the purpose of this study.

Significance of the Study

This research is expected to be beneficial to authorities who are charged with corporate sustainability reporting compliance to appreciate the need to ensure that appropriate sustainable practices and reporting are put in place to avoid collapse of businesses in the economy. Full compliance to sustainable practices will assist Nigerian firms, especially firms in oil and gas sector to ensure positive corporate performance in relation to profitability through enhanced revenue generation and robust cost control. Also, the results of the study will be an added advantage to the management of the firm in their struggle to protect the rights of customers, employees, shareholders as well as operating with international best practices.

2. Review of Related Literature

2.1 Conceptual Framework

2.1.1 Environmental Information Disclosure

Environmental information disclosure are costs related to environmental issues, actual or potential which has been incurred due to the negative impact of firms activities on environment and livelihood. As organizations are meant to bear the full cost of firms' environmental impact, such costs include; remediation costs, waste management cost, investment in environmental related matters and pollution control equipment costs, and non-

compliance penalty, Safety and Health costs, Health insurance cover, maintenance and restoration costs, Legal and consultancy costs. The specific environmental information is generated from the published annual reports of firms under review. Firms' compliance to environmental best practices has been seen by many as a benchmark for business success and improved corporate image. The proper monitoring and valuation of environmental impacts are essential to provoke the best cost control management to minimize environmental externalities financial obligations.

2.1.2 Social Information Disclosure

Social information disclosures are costs that have been incurred by firms towards maintenance of quality relationship with communities in the ecosystem and corporate governance issues to improve firm's image. Such costs may be attributed to; Donations, provisions of social amenities, building and refurbishing educational facilities and scholarship awards to community indigenes. Social costs valuation impact on profit for the year could be strategic for cost control management that could also enhance the overall performance of firms. Most company's policies are directed towards unlocking progress and development through community partnership.

2.1.3 Economic Information Disclosure

Economic information disclosure is measure of the return on assets. Efficiency of firms' assets is vital to business success. Economic information disclosure (ECID) explains ability of assets utilization in production processes of firms' for a greater value creation to achieve return on assets. Return on Assets (ROA) is used as a proxy for Economic information Disclosure. The level of ROA may poise economic challenges to firms; especially in the area of future assets replacement and firms' performance. The overall objective of sustainability theory is the achievement of continuity and stability in operational performance. Some companies may be profitable, but not sustainable in competitive environment. Just like other management functions, information on economic indicators including ROA is used when comparing similar companies or assessing a company's trends of performance.

2.1.4 Return on Assets

Return on Assets explains the relationship between profit after tax and the value of the total assets of the organization. It gives the firm the opportunity of assessing the ability of the assets to generate returns that could be capable for future assets replacement. It is calculated as follows;

Return on Assets (ROA) = Profit After Tax/ Total Assets

2.1.5 Corporate Financial Performance

Corporate performance can be looked at as a broad concept. To Illiemena & Okolocha (2019), measures of corporate performance of an organization vary as the motive for the measurement. This suggests that firms have peculiar reason(s) for chosen a particular measurement. The appropriate measure for corporate performance is dependent on the nature of the organization and objectives to be achieved (Jat, 2006).The driving force for corporate performance is the disclosure of stewardship report by the management to the shareholders. It includes both the financial and non-financial aspects of the firm. They areas involve measuring profitability, market value, and growth prospect of a company. However, corporate financial performance is one aspect that refers to firm's ability to generate profit. Also, firms financial performance may be evaluated in terms of key financial ratios including; earnings per share (EPS), Dividend yield (DY), Return on equity (ROE), Return on assets (ROA), Return on capital employed (ROCE) and gross profit margin (GPM) (Alsaid, 2016).

For the purpose of this study, Profit for the year would be employed as proxy for dependent variable.

2.2 Theoretical Framework

This study is underpinned on Performance Improvement developed by Jeroen Vits and Ludo Gelders (2002).

2.2.1 Performance Improvement Theory

This theory by Jeroen Vits and Ludo Gelders (2002) is based on assumption and perception that companies irrespective of sectoral background or size; whether Small, Medium or Large scale organizations is an entity of its own substantially involved in sustainability accounting generally, for the reason of improved corporate performance benefit derivable through reputation and cost reduction policies. This suggests that environmental and social accounting practices of corporate organizations is not just in a bid to please stakeholders, but in an attempt to improve overall corporate performance in the long-run while winning stakeholders good rating (IIiemena, 2020). The justification of this theory will be examined in the light of the study on the effect of sustainability reporting on financial performance of oil and gas firms in Nigeria. The choice is guaranteed since sustainability is concerned with business success and wealth creation. A company may be profitable, but not sustainable and future prospect in the competitive environment may be in danger.

2.3 Empirical Review

Akabom, Dada & Onyeogaziri (2018). This research examined the effect of sustainability reporting on corporate performance of selected quoted brewery firms in Nigeria. The aim of the study is to determine the association between sustainability reporting and corporate performance. Data was obtained from the audited financial statements of the three brewery firms under study for a period of five years (2012-2016). The result of the study shows that economic performance disclosure (ECN) Environmental Performance Disclosure (ENV), and Social Performance Disclosure (SOC) have no significant effect on return on Assets (ROA) of selected quoted firms in Nigeria.

Nnamani, Onyekwelu, Ugwu (2017) carried out research on "Effect of Sustainability Accounting and Reporting of Financial Performance of Firms in Nigeria Brewery Sector. This paper evaluates the effect of sustainability accounting on the financial performance 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 analyzed using the ordinary linear regression. The study reveals that sustainability reporting has positive and significant effect on financial performance of firms studied.

Akenbor (2014) in a study investigates the relationship between Triple Bottom Line accounting and sustainable development in Nigeria. To achieve this purpose, hypothesis was formulated and a review of related literatures was made. The data for the study were collected from the central bank of Nigeria statistical bulletin of various years and Berteksmann's transformation index of the World Bank Group, and they were analyzed using the linear regression models. The findings generated from the study revealed that TBL accounting has a positive significant impact on sustainable development in Nigeria. This implies that increase in the adoption of TBL accounting leads to increase in sustainable development.

3. Methodology

3.1 Research Design

This study made use of panel data based on *ex-post facto* design. This design is the type of research involving events that have already taken place (historical).Regression Analysis was utilized to establish meaningful relationship between sustainability and financial performance.

3.2 Area of the Study

The study focused on Nigeria with the aim to determining the effect of sustainability reporting on corporate financial performance of oil and gas companies in Nigeria. The firms to be studied will be selected from the oil and gas sector of Nigerian Exchange Group (NGX). This study will cover only selected quoted companies classified under oil and gas sub-sector of manufacturing industry as at 31st December 2022.

3.3 Population of the Study

The population of this study consists of twelve Down Stream oil and gas companies listed on the Nigerian Exchange Group (NGX) as at 31st December, 2022. The companies under review include; Mobil Oil Nigeria Plc, Mrs Oil Nigeria Plc, Conoil Nigeria Plc, Oando Oil Nigeria Plc, Total Oil Nigeria Plc, Japaul Oil Nigeria Plc, Eterna Oil Nigeria Plc, Forte Oil Nigeria Plc, Seplat oil Nigeria Plc, Rakunity oil Nigeria Plc, Anino Oil Nigeria Plc and Capoil Nigeria Plc.

3.4 Source of Data

This study made use of secondary data. Data were sourced from publications of Nigerian Exchange Group (NGX), facts Book, Audited annual reports and Accounts of sampled quoted oil and gas firms for the period under review.

3.5 Sample Size and Sampling Technique

The sample size of six (6) oil and gas firms including, Conoil Nigeria Plc, MRS Oil Nigeria Plc, Total oil Nigeria Plc, Seplat Oil Nigeria Plc, Japaul Oil Nigeria Plc, and Eterna Oil Nigeria Plc was selected for the period 2012 - 2022, utilizing stratified random sampling technique. This sampling method involves the selection of a sample based on classes or groups with each group or stratum having some definite characteristics or features (Douglass, William & Robert, 2002). Notwithstanding, firms quoted in the Nigerian Exchange Group (NGX) are already classified into sectors, while the firms in oil and gas sector quoted in Nigerian Exchange Group (NGX) are also classified into those committed to compliance or non – compliance to sustainability practices and information disclosures in the financial statement.

3.6 Method of Data Analysis

The study adopted multiple regression model (MRM) and panel least square aided by STATA 13 Software package. The regression analysis predicts the value of a variable based on the value of the other variable and explains the effect of changes in the values of variable on the values of the other variable.

3.7 Model Specification

The Model specification for this study is related to previous research efforts on sustainability reporting such as Akabom, Dada & Onyeogaziri (2018) and Nnamani, Onyekwelu and Ugwu (2017) adopted multiple regression analysis. The control variable is oil and gas firm size. To test the hypotheses, the profitability variable will be regressed against environmental

information Disclosure Cost, Social Information Disclosure Cost and Economic Information Disclosure and the control variable in the form indicated below:

Profit for the Year =f(ENID, SOID, ECID) …………………………………….…………..(1)

Explicit representation of the model in Additive form

$$\textit{Profit for the Year} = \beta_0 + \beta_1 ENID_{it} + \beta_2 SOID_{it} + \beta_3 ECID_{it} + C_{it} + \varepsilon_{it} \quad \text{………………………(2)}$$

With the control variable introduced, the regression equation becomes;

$$PFY = \beta_0 + \beta_1 ENID_{it} + \beta_2 SOID_{it} + \beta_3 ECID_{it} + LnTA_{it} + C_{it} + \varepsilon_{it} \quad \text{……………………………(3)}$$

Where,

PFY = Profitability indicator of Financial performance of oil and gas company i in time t

ENIDTTA = Ratio of Environmental Information Disclosure to Total Assets

SOIDTTA = Ration of Social Information Disclosure to Total Assets

ECIDTTA = Ration of Economic Information Disclosure to Total Assets

LnTA = Natural Logarithm of Total Assets of oil and gas companies

$\beta_1\beta_2\beta_3\beta_4\beta_5$ = Coefficients of the explanatory variables

β_0 = The constant term or intercept for firm i in the year t.

ε_{it} = The disturbance or error term for firm i in the year t.

c_{it} = The non-observable individual effect

i = firm identifier (6 firms)

t = time variable (2012,2013,…..2022)

3.8 Research Variables

(a) Dependent Variable

The firms' financial performance is proxy by the actual profit for the year. The profit for the year in accounting process is same as Profit after Tax, (PAT). This figure is the difference between firm's total revenue and total expenditure over time.

(b) Independent Variables

The independent variables for the study include;

(i) Environmental Information Disclosure

Environmental information disclosure (ENID) explains the environmental related costs incurred and disclosed in the annual reports of selected oil and gas companies in Nigeria. The related costs represent costs incurred as a result of depletion and degradation vis-à-vis air and water pollutions from oil spillages and industrial wastes. The deplored effort of companies for environmental remediation poises some financial implication on overall performance. Environmental compliance is bound to mitigate fines and penalties for negligence and communal crisis with oil and gas companies, which otherwise would have negative impact on profit of the firm.

(ii) Social Information Disclosure

Social information disclosure (SOID) explains firms' obligatory social responsibility related costs incurred on the environment where they operate and also disclosed in the annual reports of oil and gas companies in Nigeria to enable the stakeholders' judgment and performance

evaluation. The social aspect is relates to ethical behaviour reflected in firms' financial involvement in the provision of basic social amenities such as; Road rehabilitation, Borehole water, Electricity, and hospitals. Others include Scholarships to community members, improvement on primary and post primary educational institutions facilities, as well as committed efforts to communal projects initiative and socio-cultural issues.

(c) Economic Information Disclosure

Economic information disclosure (ECID) explains ability of assets utilization in production processes of firms' for a greater value creation to achieve return on assets. Return on Assets (ROA) is used as a proxy for Economic information Disclosure. The level of ROA may poise economic challenges to firms; especially in the area of future assets replacement and firms' performance.

3.9 Control Variables

The control variable used in this study is firm size. Kennedy and Mcdaniel (1989) find that larger firms tend to have better internal control, better information systems, more resources for hiring fully qualified and experienced personnel and therefore increased reporting quality. *Natural Logarithm of Total Assets (LnTA)* is used as proxy for size of the firm. It is preferred by most researchers given that it is easier for firms to inflate their total sales than their total assets. While total assets is used to deflate most of the variables in the study to make these linear, natural logarithm of Total Assets linearizes the value of the total assets. Natural Logarithm of Total Assets = LnTA

4. Discussion of Findings

4.1 Data Presentation and Analysis

Table 4.1.: Descriptive Statistics

Var.	*Obs.*	*Mean*	*Standard Prob.*	*Prob. Min*	*Max Deviation*	*Skewness*	*Kurtosis*
PFY	66	.0261111	.289687	0.0000	0.0000	-.73	1.76
ENID	66	.0607078	.1063502	0.0000	0.0000	.001463	.6877856
SOID	66	.0173197	.0530678	0.0000	0.0000	0.0000	.3182591
ROA	66	.0381241	.2824295	0.0000	0.0000	-.7349	1.7627
LnTA	66	10.26973	1.484807	0.0001	0.0478	6.3012	11.8749

Source: Authors' STATA 13 Outputs

The compiled figures for both the dependent and explanatory variables are pooled and averaged to arrive at the values portrayed on table 3 above. In other words, the means of the five variables, a powerful median measure even though vulnerable to extreme values, of the quoted five oil and gas companies in 66 observations are depicted above. These sample means are expected to approximate the true population means of oil and gas companies in Nigeria. On the other hand, the standard deviation, a measure of dispersion, is quite large in comparison to the respective means which is expected as the sampled firms come from the diverse oil and gas companies. This is characteristic of heterogeneous (panel) data. The largeness is quite obvious given that the mean, standard deviation and standard error do exist in the same metrics.

Skewness is synonymous with the standardized third moment. It connotes a number describing only the asymmetry of the distribution about the sample mean. While negative

kurtosis show flatness and light tails, positive kurtosis portrays peakedness and heavy tails in relation to the normal distribution. The probabilities of both moments in this case are below 5% for all the entered variables. In the same vein, the P-values accentuated the statistical significance of being normally distributed as the probabilities of both skewness and kurtosis exceeded that of Chi Square for all the entered variables. The distinction between the minimum and maximum values is the *range* of the distribution for the variables under consideration.

4.2 Pairwise Correlations

Table 4.2 below presents Pairwise(Pearson) Correlation Coefficients and their P-values for firm specific determinants of cash holdings of firms employed in the study.

Table 4.2: Correlation Matrix with P-values involving 66 Observations

	ENIDTTA	SOIDTTA	ROA	LnTA	PFYTTA
ENIDTTA	1.0000				
SOIDTTA	-.0446	1.0000			
	0.7488				
ROA	0.1049	-0.0085	1.0000		
	0.4502	0.9515			
LnTA	0.0605	-0.7266*	-0.0646	1.0000	
	0.6631	0.0000	0.5976		
PFYTTA	0.0887	- 0.0016	0.9434*	-.0735	1.0000
	0.5234	0.9910	0.0000	0.5976	

Source: Authors' STATA 13 Outputs

The Pearson correlation coefficients measure the degree of association between the different variables. Probability of each correlation coefficient is beneath each. Further, the P-values that are less than 5% show strong statistical significance. The table above portrays a negative influence of two predictors: environmental information disclosure and natural logarithm of total assets. Further, the remaining explanatory variables (social information disclosure and return on assets) exerted positive influences on profit for the year. In this instance, only return on assets exerted significant positive influence on the regressand. There exists a perfect relationship between natural logarithm of total assets and social information disclosure showing evidence of colinearity (i.e. perfect association between explanatory variables). The later is a characteristic of panel data which is ameliorated using colinearity diagnostics in so far as there are no lagged values and all dummies eradicated.

4.3 Multiple Regressions

Table 4.3: Prais-Winsten Regression Correlated Panels Corrected Standard Errors

		Semirobust				
PFY	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ENIDTTA	-.0258512	.0741141	-0.35	0.729	-.1747891	.1230867
SOIDTTA	.0696046	.4439061	0.16	0.876	-.822458	.9616672
ROA	1.061048	.2679041	3.96	0.000	.5226743	1.599421
LnTA	-.0127595	.0247064	-0.52	0.608	-.0624089	.0368899
_cons |	.1081126	.2804231	0.39	0.702	-.4554188	.671644

Durbin-Watson (original) 1.143154 F(4, 49) = 4.21 Prob > F = 0.0052
Durbin-Watson (transformed) 1.202539 R-squared = 0.9151 Root MSE = 0.09849

Source: Authors' STATA 13 Outputs

As depicted above, P-value = 0.0052 gives the inference that the cumulative influence of the determining variables is statistically significant.

Regression Equation for the Comprehensive Model
PFY = .1081-.0259ENIDTTA + .0696SOIDTTA +1.0610ROA-.0128LnTA
In table 2, the transformed Durbin-Watson d-statistic is adjusted (from 1.14 to 1.2) indicating that any serial correlation has been corrected. F – Statistic (a powerful statistic for testing hypothesis) depicts that the combined influence of all the explanatory variables including the control variables on profit for the year of firms is statistically very significant. In other words, the entered explanatory variables exerted significant positive effect on profit for the year of the firms. This implies that a unit increase in environmental information disclosure will have a corresponding increase in profit after tax of the sampled oil and gas firms in Nigeria. The multiple coefficient of determination, R-squared, is 92% indicating that 92% change / movement on profit for the year of firms is caused by these determinants. Further, 92% is a very significant influence. The p-value is near perfect at 0.0052 which is lower than $\alpha = 0.05$ corroborating that the influence of the explanatory variables is statistically relevant. Specifically, only return on assets exerted strong positive influence on profit for the year.

4.4 Tests of Hypotheses

Hypothesis One

Step 1: Restatement of the Hypothesis in Null and Alternate Form

H_0: Environmental information disclosure has no significant effect on profit for the year of oil and gas companies in Nigeria.

H_1: Environmental information disclosure has significant effect on profit for the year of oil and gas companies in Nigeria.

Step 2: Statement of Decision Criteria

According to Gujarati and Porter (2009), the decision rule involves accepting the alternate hypothesis (H_1) if the sign of the coefficient for environmental information disclosure (ENID)

either positive or negative, the modulus of the t-Statistic > 2.0 and the P-value of the t-Statistic < 0.05. Otherwise, accept H_0 and reject H_1.

Step 3: Presentation of Test Results

Table 4.3 Prais - Winsten Regression Correlated Panels Corrected Standard Errors is used to test the above stated hypothesis.

Step 4: Decision

As regards beta (β) coefficients, table 2 denotes that a unit change in environmental information disclosure increases profit for the year by -0.0259 units (bivariate relationship). Since the P-value > 0.05 at 0.729 with the inclusion of the control variable, t-Statistic < 2 at -0.35, we reject the alternate hypothesis and surmise that environmental information disclosure does not significantly affect profit for the year of quoted oil and gas companies in Nigeria.

Hypothesis Two

Step 1: Restatement of the Hypothesis in Null and Alternate Form

H_0: Social information disclosure has no significant effect on profit for the year of quoted oil and gas companies in Nigeria.

H_1: Social information disclosure has significant effect on profit for the year of oil and gas companies in Nigeria.

Step 2: Statement of Decision Criteria

According to Gujarati and Porter (2009), the decision rule involves accepting the alternate hypothesis (H_1) if the sign of the coefficient for Social information disclosure is either positive or negative, the modulus of the t-Statistic > 2.0 and the P-value of the t-Statistic < 0.05. Otherwise, accept H_0 and reject H_1.

Step 3: Presentation of Test Results

Table 4.3 Prais-Winsten Regression Correlated Panels Corrected Standard Errors is used to test the above stated hypothesis.

Step 4: Decision

As regards beta (β) coefficients, table 2 denotes that a unit change in Social information disclosure increases social information disclosure by 0.0700 units (bivariate relationship). Since the P-value > 0.05 at 0.876 with the inclusion of the control variable, t-Statistic < 2 at 0.16, we reject the alternate hypothesis and surmise that social information disclosure does not significantly affect profit for the year of quoted oil and gas companies in Nigeria. That is, the extent of the influence exerted on profit for the year by social information disclosure is insignificant albeit positive.

Hypothesis Three

Step 1: Restatement of the Hypothesis in Null and Alternate Form

H_0: Economic information disclosure has no significant effect on profit for the year of quoted oil and gas companies in Nigeria.

H_1: Economic information disclosure has significant effect on profit for the year of quoted oil and gas companies in Nigeria.

Step 2: Statement of Decision Criteria

According to Gujarati and Porter (2009), the decision rule involves accepting the alternate hypothesis (H_1) if the sign of the coefficient for economic information disclosure is either positive or negative, the modulus of the t-Statistic > 2.0 and the P-value of the t-Statistic < 0.05. Otherwise, accept H_0 and reject H_1.

Step 3: Presentation of Test Results

Table 4.3 Prais-Winsten Regression Correlated Panels Corrected Standard Errors is used to test the above stated hypothesis.

Step 4: Decision

As regards beta (β) coefficients, table 2 denotes that a unit change in eeconomic information disclosure increases the dependent variable by 1.061 units (bivariate relationship). Since the P-value < 0.05 at 0.0000(perfect relationship) with the inclusion of the control variable, t-Statistic > 2 at 3.96, we accept the alternate hypothesis and conclude that eeconomic information disclosure has very significant effect on profit for the year of quoted oil and gas companies in Nigeria.

4.5 Discussions of Results

(i) Effect of Environmental Information Disclosure on Profit for the Year

The result of hypothesis one inferred that environmental information disclosure has insignificant and negative influence on profit for the year. The result is in alignment with Akabom, Dada, & Onyeogaziri (2018). Conversely, Nnamani, Onyekwelu and Ugwu (2017) assessed the effect of sustainability reporting on corporate performance of selected quoted brewery firms in Nigeria and discovered that environmental aspects has positive and significant effect on profit for the year of firms.

(ii) Effect of Social Information Disclosure on Profit for the Year

The outcome of hypothesis two concluded that social information disclosure has no significant effect on profit for the year of oil and gas companies in Nigeria. The result is aligned to prior empirical study including, Akabom, Dada, & Onyeogaziri (2018). Conversely, (Akenbor, 2014) empirically discovered significant positive relationships between social information disclosure and sustainable development in Nigeria. This implies that increase in social information disclosure leads to increase in sustainable development.

(iii) Effect of Economic Information Disclosure on Profit for the Year

The result of hypothesis three surmises that economic information disclosure has statistically very significant positive impact on profit for the year of oil and gas firms. This result is in alignment with prior studies including; Akenbor, (2014) and Nnamani, Onyekwelu and Ugwu, (2017). Conversely, this result disagrees with the outcome of Akabom, Dada and Onyeogaziri, (2018) study, which has no significant effect on financial performance.

5. Summary

5.1 Summary of the Findings

(i) Environmental information disclosure has no significant effect on the level of profit for the year of quoted oil and gas companies in Nigeria. The extent of influence exerted on profit for the year is insignificant and negative. This suggest that a unit increase in environmental information disclosure will not have a corresponding effect on profit for the year of quoted oil and gas companies in Nigeria. As a consequence, Nigerian oil and gas companies should opt to be responsive to environmental issues resulting from production activities. Discharge of environmental issues obligations has the advantage of improved image and financial performance.

(ii) Social information disclosure does not significantly influence the level of profit for the year of quoted oil and gas companies in Nigeria. Though not statistically significant, as a determinant for sustainable development, necessitate that top management of these firms maintain relationship with communities and larger society. Communities' relationship increases firms image, improved patronage, and sustainable development.

(iii) Economic information disclosure exerted strong positive influence on the level of profit for the year. This implies that the top management of firms can invest on profitable investment to boost firms' profitability and sustainable development.

5.2 Conclusion

The effect of sustainability reporting on financial performance of oil and gas companies in Nigeria was investigated for the eleven year period (2012 – 2022). The study employed panel least squares estimation technique and surmised that oil and gas companies exerted mixed effect. Some are significant and positive, while another has significant positive impact on profit for the year. However, this study is tuned to performance Implementation Theory (PIT). This necessitated that management should unlock strategies for improved performance, given the huge costs of operational expenditures, not just the interest of shareholders.

5.3 Recommendations

In view of the findings above, this study recommends that:

(i) The level of awareness of environmental information disclosure should be increased. This can be achieved by the ministry of environment liaising with the relevant accounting bodies calling for training and retraining of accounting staff on environmental information issues.

(ii) Social Information Disclosure should be improved to gain public confidence and enhance corporate performance of oil and gas companies in Nigeria. Although the effect on profit is negative, the effect of non compliance is deemed to be much worse.

(iii) Oil and gas companies on their part should ensure that they comply with the sustainability reporting as it relates to economic information disclosure so as to minimize economic liabilities as it will go a long way in enhancing their performance.

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