Journal of Interdisciplinary Research in Accounting and Finance
ISSN: 2837-1895| Impact Factor : 6.18
Volume. 11, Number 1; January-March, 2024;
Published By: Scientific and Academic Development Institute (SADI)
8933 Willis Ave Los Angeles, California
https://sadijournals.org/index.php/jiraf|editorial@sadijournals.org

THE RELATIONSHIP BETWEEN SUSTAINABILITY ACCOUNTING DISCLOSURE AND FINANCIAL PERFORMANCE IN LISTED OIL AND GAS COMPANIES IN NIGERIA

[1]Nnamani, Chidiebere, PhD. [2]Akubue, Daniel Ifeanyi [3]Nzeagwu, Chinonyerem Emmanuel [4]Ndubusi, Prince Chinecherem [5]Ijegalu, Sunday Jerome [6]Udegbunam Benedith Omelebere

[1-6]Department of Accountancy, Faculty of Business Administration, University of Nigeria, Nsukka.
DOI: https://doi.org/10.5281/zenodo.10829255

Abstract: The main objective of this study is to determine whether there is a relationship between sustainability accounting disclosure and financial performance of Nigerian firms. Specifically, the objectives of the study are; ascertain the effect of corporate social responsibility on return on equity determine the effect of research and development accounting on return on equity and to determine the effect of environmental protection accounting on return on equity of Nigerian oil and gas companies. Ex post facto research design and content analysis were employed for the study. Data for study was collected from annual reports and accounts of the company in Nigeria. Formulated hypotheses were tested using Pearson Correlation with the aid of SPSS Version 26. Based on the analysis, the study revealed that corporate social responsibility has effect on return on equity of Nigerian oil and gas companies, research and development accounting has effect on return on equity of Nigerian oil and gas companies and that environmental protection accounting has no significant effect on return on equity of Nigerian oil and gas companies. The study therefore recommends among other things that accounting regulatory bodies should introduce sustainable environmental accounting and reporting that will take care of environmental/sustainability information dissemination.

Keywords: Sustainability, Accounting disclosure, Financial performance, Nigerian firms

1.0 Introduction

1.1 Background of the Study

The oil and gas industry play a significant role in the Nigerian economy, contributing substantially to GDP and government revenue (Aigbe & Ogbeifun, 2022). However, its operations raise concerns about environmental damage, social impact, and long-term sustainability. In response, there is increasing pressure on companies to adopt sustainable practices and disclose their efforts transparently. This study investigates the relationship between sustainability accounting disclosure and financial performance in listed Nigerian oil and gas companies, examining the potential benefits and complexities involved.

Sustainability accounting disclosure refers to the practice of companies reporting their environmental, social, and governance (ESG) performance alongside their financial performance. This practice has gained prominence as stakeholders increasingly demand transparency and accountability from corporations regarding their impact on the environment and society. In the context of the oil and gas industry, which is known for its significant environmental and social implications, understanding the relationship between sustainability accounting disclosure and financial performance is crucial for assessing the long-term viability and resilience of these companies (Oriakhi & Ohiokha, 2019).

Several factors are driving the rise of sustainability accounting disclosure in the oil and gas industry globally. Firstly, stakeholders increasingly demand transparency and accountability regarding companies' environmental and social impacts (KPMG, 2021). This includes investors, who are increasingly integrating sustainability considerations into their investment decisions (Eccles et al., 2012). Secondly, regulatory frameworks are evolving, encouraging or even mandating sustainability reporting (GRI, 2022). Finally, companies recognize the potential benefits of sustainability disclosure, such as enhanced brand reputation, risk mitigation, and improved access to capital (KPMG, 2021).

Corporate sustainability has become increasingly significant in recent decades, persisting as a crucial business objective for corporate managers despite the impact of the financial crisis (Deegan & Unerman, 2008). The rise in social and sustainability reports within the business community has raised concerns about their value for both companies and stakeholders. These concerns are amplified by the escalating costs associated with reporting, coupled with the proliferation of standards, guidelines, and awards. Initiatives and actions by leading companies have expanded the scope and technical quality of public reports.

Presently, the activities related to oil exploration and drilling pose significant environmental challenges, including spillages, community disruptions, sabotage, technological failures, and unsustainable consumption of natural resources. While efforts to mitigate environmental pollution may incur short-term costs for companies, they present opportunities for cost reduction in the medium and long term, potentially leading to additional income (Hasan & Hakan, 2012).

The integration of social and environmental factors into accounting has been referred to by various terms, such as environmental accounting, triple bottom line accounting, corporate social responsibility accounting, sustainable accounting, mega-accounting, and Green accounting. This evolution in accounting signifies a departure from traditional practices, as early research and publications over two decades ago highlighted the shortcomings of conventional accounting (Schaltegger & Burritt, 2015). Stakeholders now expect companies to address the social and environmental impacts of their operations (Altschuller & Smith, 2011).

In response to these expectations, many organizations have embraced Corporate Social Responsibility (CSR) programs. However, some of these initiatives are not fully integrated into organizational operations and are perceived as mere philanthropic gestures. These activities are often publicly reported through various media outlets, portraying a commitment to CSR. Some organizations selectively adhere to environmental and labor standards to meet basic legal requirements (Altschuller & Smith, 2011). Corporate Social Responsibility involves businesses and organizations going beyond legal obligations to manage their impact on the environment and

society, encompassing interactions with employees, suppliers, customers, communities, and environmental protection efforts (Lea, 2004).

1.2 Statement of Problem

In Nigeria, a significant number of organizations prioritize profit maximization at the expense of other stakeholders. Some neglect the needs of host communities, employee well-being (often opting for cheap labor), environmental conservation, and community development. Research indicates that incorporating Corporate Social Responsibility (CSR) into business policies can enhance profitability, sustainability, integrity, and reputation (Nkanga, 2007). CSR reflects a company's commitment to contributing to the economic development of local communities and society as a whole.

It has become imperative for corporate organizations to adopt environmental cost responsiveness and disclose environmental information in their annual financial reports. Traditional cost accounting approaches are deemed inadequate, as they have overlooked crucial environmental costs and activities impacting the environment. The failure to address environmental costs creates a gap in financial information reporting (Bassey, Oba & Onyah, 2013). Numerous studies have explored sustainability accounting and corporate performance from various perspectives, yielding different reactions (Bassey, Oba, & Onyah, 2013; Okoye, Oraka & Ezejiofor, 2013; Schaltegger and Wagner, 2006; Okoye and Ezejiofor, 2013; Sayedeh and Saudah, 2014; Lee, Pati & Roh, 2011; Kasum and Osemene, 2010; Mehenna & Vernon, 2004).

Given that reporting on environmental issues is currently voluntary, many corporate financial statements exclude crucial environmental information. Environmental regulatory laws mandate only voluntary disclosure of information related to industrial emissions, degradation, waste, and any activities negatively impacting the environment and employees. Therefore, there is a pressing need to conduct a survey on the environmental accounting practices of oil and gas companies in Nigeria.

Environmental pollution is an undesirable change in physical, Chemical and biological characteristics of air, land and water. As a result of rapid industrialization, and other human activities, the environment became loaded with diverse pollutants that are been released as by- products. From the foregoing, this study therefore seeks to ascertain whether there is a relationship between corporate social and environmental disclosures and financial performance of Nigerian oil and gas firms

1.3 Objectives of the Study

The aim of this study is to determine the relationship between sustainability accounting disclosure and financial performance of Nigerian oil and gas firms. Specifically, the objectives of the study are;

- ❖ To ascertain the effect of corporate social responsibility on return on equity of Nigerian oil and gas companies.
- ❖ To determine the effect of research and development accounting on return on equity of Nigerian oil and gas companies.
- ❖ To determine the effect of environmental protection accounting on return on equity of Nigerian oil and gas companies.

1.5 Research Hypotheses

For the purpose of the study, the following null hypotheses were raised:

H_{o1}: Corporate social responsibility accounting has no significant effect on return on equity of Nigerian oil and gas companies.

H_{o2}: Research and development accounting has no significant effect on return on equity of Nigerian oil and gas companies.

H_{o3}: Environmental protection accounting has no significant effect on return on equity of Nigerian oil and gas companies.

2.0 REVIEW OF RELATED LITERATURE

2.1 Conceptual Framework

2.1.1 Sustainability

Traditional financial reporting has traditionally focused on the assumption that, despite the existence of various identifiable user groups, financial statements primarily cater to shareholders, potential investors, and financial intermediaries (FEE, 2000). Friedman (1962) argued that the sole responsibility of business is profit-making, and traditional financial statements predominantly communicate this objective to shareholders, often neglecting other stakeholders.

Environmental costs, as defined by Hansen and Mowen (2000), encompass the expenses associated with creating, detecting, remediating, and preventing environmental degradation. AT&T, as per the US EPA (1995), defines Green Accounting or Environmental Accounting as the identification and measurement of the costs related to environmental materials and activities, utilizing this information for environmental management decisions. Howes (2002) characterizes Environmental Accounting as the generation, analysis, and use of compact environmentally related information to enhance corporate environmental and economic performance. Unlike focusing solely on internal and external environmental accounting, Howes emphasizes the visible linkage between environmental and financial performance. Environmental accounting aims to integrate environmental sustainability into an organization's culture and operations, providing decision-makers with information to reduce costs, mitigate business risks, and add value (Ibemgbor, 2011).

Nagle (1995) notes that environmental accounting indicates a high priority placed by corporate managers on environmental considerations. While environmental accounting is a significant topic internationally, it is not yet a priority in Nigeria. Field and Field (2002) describe key aspects of environmental degradation and costs, including emissions into the air, water, and land, untreated domestic waste outflows, and solid waste disposal methods like land spreading or incineration. Pollution sources encompass airborne carbon monoxide emissions from power plants and illegal dumping practices (Ibemgbor, 2011).

In Nigeria, some sampled companies were found to significantly pollute the environment during their production processes. Instances included the discharge of waste into public highways, streams, and rivers. Certain oil and chemical companies in Lagos and Port Harcourt were observed to still flare gas into the air, leading to the contamination of nearby streams (Ibemgbor, 2011).

2.1.2 Sustainability Measurement

This serves as the quantitative foundation for informed sustainability management. The metrics utilized for assessing sustainability, encompassing environmental, social, and economic aspects both individually and in various combinations, are still in the process of evolution. These metrics include indicators, benchmarks, audits,

indexes, accounting, as well as assessment, appraisal, and other reporting systems. Their application spans a broad range of spatial and temporal scales.

According to Howes (2002), Environmental Accounting is defined as the generation, analysis, and utilization of monetarized environmentally related information to enhance corporate environmental and economic performance. In this perspective, environmental accounting enhances the visibility of both environmental and financial performance. It identifies resource use, measures, and communicates the costs of a company's or a nation's economic impact on the environment. These costs comprise expenses for cleaning up or remediating contaminated sites, environmental fines, penalties and taxes, acquisition of pollution preventive technologies, and waste management costs. The financial statements in this study are expected to address various environmental issues, including the concept of Sustainable Development, introduced by the World Commission on Environment and Development (1987), defining it as meeting the present human needs without compromising the ability of future generations to meet their own needs.

Babalola (2013) notes the ambiguity and uncertainty surrounding the true meaning of corporate social responsibility (CSR) and the driving forces behind its pursuit. Regardless of the motivations behind CSR theories, it can be interpreted as the concept of triple bottom-line ("People, Planet, Profit"), encapsulating an expanded range of values and criteria to measure organizational success economic, environmental, and social.

2.1.3 Sustainability Accounting Disclosure

Sustainability accounting disclosure refers to the practice of integrating environmental, social, and governance (ESG) factors into financial reporting to provide a comprehensive view of an organization's performance in terms of sustainability. It involves the measurement, analysis, and communication of an organization's non-financial performance, including its impact on the environment, society, and economy. Sustainability accounting disclosure aims to provide stakeholders with transparent and reliable information about an organization's sustainability practices and their potential impact on long-term value creation (Epstein & Roy, 2017).

Sustainability accounting disclosure is essential for organizations seeking to demonstrate their commitment to sustainable development and responsible business practices. By disclosing relevant ESG information, organizations can enhance their accountability, build trust with stakeholders, and make informed decisions that contribute to long-term value creation. Moreover, sustainability accounting disclosure enables investors, customers, employees, and other stakeholders to assess the environmental and social implications of an organization's operations and investment opportunities (Global Reporting Initiative, 2020).

The integration of sustainability accounting disclosure into financial reporting has gained significant attention in recent years due to the growing recognition of the importance of sustainable development and corporate social responsibility. Organizations are increasingly realizing the need to go beyond traditional financial reporting and consider the broader impacts of their activities on society and the environment. As a result, there is a growing demand for standardized frameworks and guidelines for sustainability accounting disclosure to ensure consistency, comparability, and transparency in reporting practices (Schaltegger & Burritt, 2017).

One of the prominent frameworks for sustainability accounting disclosure is the Global Reporting Initiative (GRI), which provides guidelines for reporting on economic, environmental, and social performance. The GRI framework offers a comprehensive set of indicators and reporting principles that enable organizations to disclose

relevant ESG information in a structured and systematic manner. Additionally, other frameworks such as the Sustainability Accounting Standards Board (SASB) standards and the Task Force on Climate-related Financial Disclosures (TCFD) recommendations also play a crucial role in shaping sustainability accounting disclosure practices (Sustainability Accounting Standards Board, 2020).

2.1.4 Corporate Social Responsibility

Corporate social responsibility (CSR) is a concept that refers to a corporation's commitment to operate in an economically, socially, and environmentally sustainable manner while balancing the interests of diverse stakeholders such as shareholders, employees, customers, suppliers, communities, and the environment (Carroll, 2015). CSR involves integrating ethical and responsible practices into a company's core business strategy and operations. This includes initiatives related to environmental sustainability, philanthropy, ethical labor practices, community engagement, and transparency in business operations (Crane et al., 2019).

The origins of CSR can be traced back to the early 20th century when businesses began to recognize the importance of their impact on society. Over time, CSR has evolved from a philanthropic approach to a strategic business imperative. Today, CSR is considered essential for maintaining a positive corporate reputation, attracting and retaining talent, fostering innovation, and mitigating risks associated with environmental and social issues (McWilliams & Siegel, 2001).

One of the key frameworks for understanding CSR is Carroll's pyramid of corporate social responsibility. According to Carroll (1991), this pyramid consists of four responsibilities: economic, legal, ethical, and philanthropic. The economic responsibility refers to a company's obligation to be profitable and provide returns to shareholders. The legal responsibility involves compliance with laws and regulations. The ethical responsibility pertains to conducting business in an ethical and moral manner beyond what is legally required. Finally, the philanthropic responsibility encompasses voluntary contributions to society through charitable acts.

In recent years, there has been a growing emphasis on the role of CSR in addressing global challenges such as climate change, income inequality, and human rights violations. As a result, many multinational corporations have adopted sustainability goals aligned with international agreements such as the United Nations Sustainable Development Goals (SDGs) (Doh & Stumpf, 2005).

2.1.4 Research and Development Accounting

Research and development (R&D) accounting refers to the process of recording and reporting the costs associated with the creation and enhancement of new products, processes, or services. It involves the identification, measurement, and allocation of R&D expenses to ensure accurate financial reporting and decision-making. R&D activities are crucial for companies seeking to innovate and remain competitive in their respective industries. Therefore, accounting for R&D expenditures is essential for understanding the financial impact of these activities on a company's performance (Horngren, Datar & Rajan, 2012).

R&D accounting encompasses various costs incurred during the research and development phases, including personnel expenses, materials, equipment, and overhead costs. These costs are typically classified as either research or development expenses. Research costs are related to activities aimed at discovering new knowledge or understanding fundamental principles, while development costs involve applying research findings to create new products or processes. Proper accounting for R&D expenses is important for complying with financial

reporting standards and accurately reflecting the value of intangible assets resulting from R&D efforts (Epstein, & Lee, 2016).

In accordance with generally accepted accounting principles (GAAP), companies are required to expense R&D costs as they are incurred. However, certain development costs that meet specific criteria may be capitalized as intangible assets if they are expected to generate future economic benefits. The capitalization of such costs involves assessing the technological feasibility, economic viability, and intent to complete the project. Additionally, companies must disclose relevant information about their R&D activities in financial statements and footnotes to provide transparency to investors and stakeholders (Needles, Powers & Crosson, 2013).

R&D accounting also plays a critical role in evaluating the return on investment in innovation. By accurately tracking R&D expenditures and linking them to the outcomes of innovation projects, organizations can assess the effectiveness of their R&D investments. This information is valuable for strategic planning, performance evaluation, and benchmarking against industry peers (International Accounting Standards Board (IASB), 2019).

2.1.6 Environmental Protection Accounting

Environmental protection accounting refers to the process of integrating environmental costs and benefits into the financial and management accounting systems of an organization. It involves the identification, measurement, and reporting of environmental costs and benefits in order to provide a more comprehensive understanding of the environmental impacts of business activities. Environmental protection accounting aims to promote sustainable business practices by encouraging organizations to consider the environmental consequences of their operations and make informed decisions that minimize negative impacts on the environment (Horngren, Datar & Rajan, 2012).

One of the key aspects of environmental protection accounting is the recognition and measurement of environmental costs. These costs include expenses related to pollution control, waste management, environmental remediation, and compliance with environmental regulations. By incorporating these costs into their accounting systems, organizations can accurately assess the true cost of their operations and identify opportunities for cost savings through improved environmental performance (Burritt & Schaltegger, 2010).

In addition to costs, environmental protection accounting also involves the quantification of environmental benefits. This includes assessing the positive impacts of sustainable practices such as energy efficiency, waste reduction, and resource conservation. By measuring these benefits, organizations can demonstrate the value of their environmental initiatives and make informed decisions about future investments in sustainable technologies and practices (Unerman, Bebbington & O'Dwyer, 2007).

Furthermore, environmental protection accounting encompasses the reporting of environmental information to stakeholders. This may involve disclosing environmental costs and benefits in financial statements, sustainability reports, or other forms of communication. By providing transparent and reliable information about their environmental performance, organizations can enhance their reputation, build trust with stakeholders, and demonstrate their commitment to responsible environmental stewardship (Epstein, & Buhovac, 2014).

2.1.7 Financial Performance

Financial performance refers to the evaluation of a company's overall financial health and its ability to generate profits and meet its financial obligations. It is a critical aspect of assessing the effectiveness of a company's

operations and management in achieving its financial goals. Financial performance is typically measured through various financial indicators such as profitability, liquidity, solvency, and efficiency ratios (Brigham & Ehrhardt, 2013).

Profitability ratios assess the company's ability to generate profits from its operations. These ratios include return on assets (ROA), return on equity (ROE), and gross profit margin. Liquidity ratios measure the company's ability to meet short-term financial obligations, such as current ratio and quick ratio. Solvency ratios evaluate the company's long-term financial stability and its ability to meet long-term debt obligations, including debt-to-equity ratio and interest coverage ratio. Efficiency ratios gauge how effectively the company utilizes its assets and resources to generate sales and profits, such as asset turnover and inventory turnover (Brealey, Myers & Allen, 2017).

Assessing financial performance is crucial for various stakeholders, including investors, creditors, management, and regulatory authorities. Investors use financial performance indicators to make investment decisions, while creditors rely on these indicators to evaluate the creditworthiness of a company. Management uses financial performance metrics to identify areas for improvement and make strategic decisions. Regulatory authorities monitor financial performance to ensure compliance with accounting standards and regulations (Gitman & Zutter, 2019).

2.1.8 Return on Equity (ROE).

Return on Equity (ROE) is a financial metric used to evaluate a company's profitability by measuring the efficiency with which it generates profits from shareholders' equity. ROE is calculated by dividing a company's net income by its average shareholders' equity. It is expressed as a percentage and provides insight into how effectively a company is utilizing its equity to generate profits for its shareholders (Van Horne & Wachowicz, 2015).

ROE is an important indicator of a company's financial performance and is widely used by investors, analysts, and financial institutions to assess the profitability and efficiency of a company. A high ROE indicates that a company is generating strong returns on the equity invested by shareholders, while a low ROE may suggest inefficiency in utilizing shareholder funds (Ross, Westerfield & Jaffe, 2015).

ROE can be decomposed into three components: net profit margin, asset turnover, and financial leverage. The net profit margin measures the company's ability to generate profits from its sales, the asset turnover ratio evaluates how efficiently the company utilizes its assets to generate sales, and the financial leverage ratio assesses the extent to which the company uses debt to finance its operations. By analyzing these components, investors can gain a deeper understanding of the factors driving a company's ROE and make informed investment decisions (Van Horne & Wachowicz, 2015).

Return on equity (ROE) serves as a measure of the profitability enjoyed by a firm's shareholders once all expenses and taxes have been accounted for (Van Horne & Wachowicz, 2005). Calculated as net earnings per dollar of equity capital, a higher ROE is indicative of superior managerial performance. However, it's crucial to acknowledge that an elevated ROE may result from financial leverage. Consequently, firms with higher leverage tend to exhibit higher ROE, albeit at the cost of increased risk (Ross, Westerfield & Jaffe, 2005). Typically, companies experiencing rapid growth tend to have higher ROE.

2.2 Theoretical Framework

Stakeholder theory

To sum up, stakeholder theory perceives corporations as integral components of a social system, directing attention to the various stakeholder groups within society (Ratanajongkol, Davey & Low, 2006). As per Friedman (1962), companies identify stakeholders to determine which groups need effective management to further the interests of the corporation. Stakeholder theory posits that companies will navigate these relationships based on factors such as the nature of the task environment, the salience of stakeholder groups, and the values of decision-makers shaping the shareholder ranking process (Donaldson & Preston, 1995).

This study is firmly grounded in stakeholder theory, which asserts that "stakeholders are those whose relations to the enterprise cannot be completely contracted for, but upon whose cooperation and creativity it depends for its survival and prosperity" (Slinger & Deakin, 2001). Stakeholder theory elucidates specific corporate actions and activities using a stakeholder-agency approach. It focuses on how companies manage relationships with stakeholders, emphasizing the acknowledgment of the societal context in which they operate.

2.3 Empirical Review

Dabbas and Al-rawashdeh (2012) conducted a study using primary data to investigate the impact of corporate social responsibility (CSR) on the profitability of industrial companies in Jordan. They employed a sample of 50 workers in Jordanian industrial companies to gather responses through questionnaires. The research reveals a significant correlation between CSR activities, such as providing donations, establishing non-profit projects, and supporting charities, and the profitability of industrial companies. However, no significant relationship was found between awareness and guidance campaigns and the profitability of industrial companies.

In another research by Wibowo (2012), the study explored the influence of corporate social responsibility disclosure on profitability, measured by Return on Asset, using a sample of 25 firms from the SRI-KEHATI Index during the period 2005 to 2010. The findings indicate a positive impact of social performance on the profitability of the firms, and conversely, a positive impact of the firms' profitability on their social performance.

Bassey, Oba & Onyah (2013) critically analyzed the implementation of environmental cost management and its impact on the output of oil and gas companies in Nigeria from 2001 to 2010. The study, which employed multiple regression analytical techniques, aimed to assess the extent to which the implementation of environmental cost management has affected the oil and gas industries in Nigeria. The findings demonstrate a significant relationship between the parameters influencing environmental cost management and the output of oil and gas production in Nigeria. Additionally, the study reveals the absence of established standards in Nigeria guiding environmental cost management in the oil and gas industries.

In a related study by Schaltegger and Wagner (2006) on managing and measuring the business case for sustainability, the authors focus on capturing the relationship between sustainability performance, business competitiveness, and economic performance. The study provides an overview of the subject and introduces various theoretical, empirical, and normative approaches to analyzing the link between environmental and social management and economic success. The authors discuss the basic link between sustainability performance, competitiveness, and economic success, introducing an inversely U-shaped relationship as a generic case. The

chapter concludes by presenting a framework for understanding the interaction of factors explaining the relationship between sustainability performance and competitiveness.

Enahoro (2009) conducted an assessment of the independence of tracking costs impacting the environment, the efficiency and appropriateness of environmental costs, and disclosure reporting. The research employed primary data surveys and secondary data elucidation, utilizing cross-sectional and longitudinal content analyses. Test statistics such as t-tests, Pearson Product-Moment correlation tests, ANOVA, and Multivariate Linear Regression Analysis were applied to investigate best practices in environmental accounting among companies operating in Nigeria. Findings revealed that environmental operating expenditures are not independently charged, and there is an absence of a costing system for tracking externality costs. Additionally, environmental accounting disclosure patterns vary among listed companies in Nigeria.

Beredugo and Mefor (2012) examined the relationship between environmental accounting and reporting and sustainable development in Nigeria. The study utilized Pearson correlation coefficient and OLS regression for data analyses, revealing a significant relationship between environmental accounting and reporting and sustainable development. The research suggests that environmental accounting encourages organizations to monitor greenhouse gas emissions and other environmental data against reduction targets, with consequences for noncompliance.

Kasum and Osemene (2010) evaluated the sustainable development and financial performance of Nigerian quoted companies. The study, considering sustainable development practices as potential unattractive investments to managers, assessed the impact of corporate compliance with accounting standards enforcing sustainable development practices on the operations of companies. The findings indicated a rare association between sustainable development practices and financial performance over the studied years.

3.0 METHODOLOGY

Due to the nature of the study, ex post facto research design and content analysis were adopted in collecting data from financial reports and accounts from 2017-2021. Data were collected from secondary source. This data obtained from the annual reports and audited accounts of the companies under assessment from 2017 to 2021. The study used all oil and gas companies quoted on the Nigerian Stock Exchange as at Dec. 2021.

Model specification

The specification of the model for the study is as follows:

$ROE_{it} = \beta_0 + \beta_1 ENVPA_{it} + \beta_2 CSRA_{it} + \beta_3 REDEVA_{it} + \mu$……(i)

4.0 DATA ANALYSIS AND INTERPRTATION

4.1 Test of Hypotheses

Hypothesis one

H_{01}: Corporate social responsibility has not affected return on equity of Nigerian oil and gas companies.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.784[a]	.568	.436	1.43524

a. Predictors: (Constant), SCR

Table 2: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.261	1	7.261	4.525	.145[b]
	Residual	9.239	4	2.060		
	Total	17.500	5			

a. Dependent Variable: ROCE

b. Predictors: (Constant), SCR

Table 3: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.836	4.124		2.628	.056
	SCR	.303	.161	.684	1.877	.134

a. Dependent Variable: ROCE

Table 1 above shows that the Model revealed the value of R^2 = 0. 568 and Adjusted R^2value is .436, this suggests that the model explains about 57% of the systematic variations in the dependent variable. This means that the regression explains 57% of the variance in the data.

In table 2, it reveals that the F-stat (4.525) and p-value (0.145) indicates that the hypothesis is statistically significant; hence f-stat is greater than the p-value.

In table 3, the regressed coefficient correlation result shows that an evaluation of the financial performance of the explanatory variable (Beta Column) shows that environmental protection accounting is not significant (Sig.= 0.056). Therefore, we reject null hypotheses and uphold alternative hypothesis which state that corporate social responsibility has significant effect on return on equity of Nigerian oil and gas companies.

Hypothesis two

H_{02}: Research and development accounting has no significant effect on return on equity of Nigerian oil and gas companies.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.491[a]	.187	-.051	1.79646

a. Predictors: (Constant), REDEV

Table 5: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.591	1	2.591	.903	.431[b]
	Residual	12.909	4	3.227		
	Total	16.500	5			

a. Dependent Variable: ROCE

b. Predictors: (Constant), REDEV

Table 6: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.273	6.989		1.756	.54
	REDEV	.273	.304	.409	.896	.421

a. Dependent Variable: ROCE

Table 4 above shows that the Model revealed the value of R^2 = 0. 187 and Adjusted R^2 value is -.051, this suggests that the model explains about 19% of the systematic variations in the dependent variable. This means that the regression explains 19% of the variance in the data.

In table 5, it reveals that the F-stat (0.903) and p-value (0.431) indicates that the hypothesis is statistically significant; hence f-stat is greater than the p-value.

In table 6, the regressed coefficient correlation result shows that an evaluation of the financial performance of the explanatory variable (Beta Column) shows that environmental protection accounting is not significant (Sig.= 0.054). Therefore, we reject null hypotheses and uphold alternative hypothesis which state that research and development accounting has significant effect on return on equity of Nigerian oil and gas companies.

Hypothesis three

H_{01}: Environmental protection accounting has no significant effect on return on equity of Nigerian oil and gas companies.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.363[a]	.079	-.174	1.89928

a. Predictors: (Constant), ENVA

Table 8: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.073	1	1.071	.397	.715[b]
	Residual	15.429	4	3.607		
	Total	17.502	5			

a. Dependent Variable: ROCE

b. Predictors: (Constant), ENVA

Table 9: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	19.172	1.442		14.292	.000
	ENV	-.215	.395	-.363	-.545	.715

a. Dependent Variable: ROCE

Table 7 above shows that the Model revealed the value of R^2 = 0. 079 and Adjusted R^2 value of -.174 this suggests that the model explains about 8% of the systematic variations in the dependent variable. This means that the regression explains 8% of the variance in the data.

In table 8, it reveals that the F-stat (0.397) and p-value (0.715) indicates that the hypothesis is not statistically significant, hence f-stat is less than the p-value.

In table 9, the regressed coefficient correlation result shows that an evaluation of the financial performance of the explanatory variable (Beta Column) shows that environmental protection accounting is not significant (Sig.= 0.000). Therefore, we reject null hypothesis and uphold alternative hypothesis which state that environmental protection accounting has significant effect on return on equity of Nigerian oil and gas companies.

5.1 Summary of Findings

Based on the data analyzed, the following findings were drawn;

- The study revealed that corporate social responsibility has effect on return on equity of Nigerian oil and gas companies.
- Research and development accounting has effect on return on equity of Nigerian oil and gas companies.
- Also, environmental protection accounting has no significant effect on return on equity of Nigerian oil and gas companies.

Conclusion

The relationship between sustainability accounting disclosure and financial performance in listed oil and gas companies in Nigeria is a complex and multifaceted one. The study revealed that corporate social responsibility (CSR) has a significant effect on the return on equity (ROE) of Nigerian oil and gas companies. This finding underscores the importance of CSR initiatives in enhancing the financial performance of these companies. Additionally, research and development (R&D) accounting was found to have an effect on ROE, indicating the significance of investment in innovation and technological advancement for financial performance. However, the study also found that environmental protection accounting had no significant effect on ROE, suggesting that while environmental protection is important for ethical and regulatory compliance reasons, it may not directly impact financial performance in the context of Nigerian oil and gas companies. Overall, these findings highlight the need for oil and gas companies in Nigeria to strategically integrate sustainability accounting practices, particularly CSR and R&D accounting, into their operations to enhance their financial performance.

Recommendations

Based on the findings above, the following recommendations are made:

- Sustainability should be enforced since environmental accounting is committed to improving financial performance.
- Accounting regulatory bodies should introduce sustainable environmental accounting and reporting that will take care of environmental/sustainability information dissemination.
- Companies firms should ensure that all the strict policies as regards environmental accounting are adhered to in the curse of their operation.

References

Aigbe, A. O., & Ogbeifun, O. (2022). The impact of oil price volatility on the Nigerian economy: An empirical investigation. Journal of African Finance, 37(3), 352-369.

Altschuller, S.A. & Smith. G.A. (2011). Making corporate social responsibility systemic. *Executive Counsel.* Retrieved online http//www.executivecouncel.info(feb/mar,2011)

Bassey, E. B., Oba, U. E. U., & Onyah, G. E. (2013). An Analysis of the Extent of Implementation of Environmental Cost Management and Its Impact on Output of Oil and Gas Companies in Nigeria, (2001-2010) *European Journal of Business and Management, 5*(1); 2013 2031.

Beredugo, S. B., & Mefor, I. P. (2012). Impact of environmental accounting and reporting on sustainable development in Nigeria. *Research Journal of Finance and Accountiing,7*(3) 55-81.

Brealey, R. A., Myers, S. C., & Allen, F. (2017). Principles of corporate finance (12th ed.). McGraw-Hill Education.

Brigham, E. F., & Ehrhardt, M. C. (2013). Financial management: Theory & practice (14th ed.). Cengage Learning.

Burritt, R., & Schaltegger, S. (2010). Sustainability Accounting and Reporting (Issues in Environmental Accounting & Management Series). Emerald Group Publishing Limited.

Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. Business Horizons, 34(4), 39-48.

Carroll, A. B. (2015). Corporate social responsibility: The centerpiece of competing and complementary frameworks. Organizational Dynamics, 44(2), 87-96.

Crane, A., Palazzo, G., & Spence, L. J. (2019). Corporate social responsibility: Readings and cases in a global context. Routledge.

Dabbas, M. & Al-rawashdeh, S. T. (2012). The effect of corporate social responsibility on the profitability of the industrial companies in Jordan. *Canadian social science, 8*(3),32-37

Deegan, C.& Unerman, J. (2008). *Financial accounting theory European edition*. Berkshire: McGrew-Hill. ISBN-13 9780077108960, ISBN-10 0-07-710896-5

Doh, J., & Stumpf, S. A. (2005). Handbook on responsible leadership and governance in global business. Edward Elgar Publishing.

Donaldson, T. & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence and implications. *Academy of management reviews 20*. 65-91

Eccles, R. G., Ioannou, I., & Serafeim, G. (2012). The green revolution: Reshaping capitalism to unlock long-term value. Harvard Business Review, 90(4), 70-76.

Enahoro, J.A. (2009). Design and bases of environmental accounting in oil & gas and manufacturing sectors in Nigeria. *Being thesis submitted to the department of accounting college of business and social sciences covenant university Ota, Nigeria*.

Epstein, B. J., & Lee, J. Y. (2016). Advances in Management Accounting (Vol. 27). Emerald Group Publishing Limited.

Epstein, M. J., & Buhovac, A. R. (2014). Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental, and Economic Impacts (2nd ed.). Berrett-Koehler Publishers.

Epstein, M. J., & Roy, M. J. (2017). Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental, and Economic Impacts.

Federation des Experts Comptables Europeens (FEE) (2000). *Towards a generally accepted framework for environmental reporting*. Brussels, Belgium.

Field, B. C (2001). *Natural Resource Economics; An Introduction*. Boston; Massachusetts, MA: McGrew-Hill.

Field, B.C., & Field, M. K. (2002). *Environmental Economics an Introduction*. (3rd ed) Massachusetts, MA: McGrew-Hill.

Friedman, M. (1962). *Price theory*. New Brunswick(USA) and London (UK): Aldine Transaction

Gitman, L. J., & Zutter, C. J. (2019). Principles of managerial finance (15th ed.). Pearson Education Limited.

Global Reporting Initiative (GRI). (2022). GRI Standards. Retrieved from https://www.globalreporting.org/standards/

Global Reporting Initiative. (2020). GRI Standards: The Essential Tool for Corporate Sustainability Reporting.

Hansen, D. R., & Mowen, M. M., (2000). *Cost Management Accounting and control*. (3rd ed). South-West College Publishing, a division of Thomson Learning.

Hasan, S. & Hakan, O. (2012). The importance of environmental accounting in the context of sustainable development and within IFRS evaluation. *International Symposium on Sustainable Development May 31 - June 01 2012*, Sarajevo.

Horngren, C. T., Datar, S. M., & Rajan, M. V. (2012). Cost Accounting: A Managerial Emphasis (14th ed.). Pearson Education.

Horngren, C. T., Datar, S. M., & Rajan, M. V. (2012). Cost Accounting: A Managerial Emphasis (14th ed.). Pearson Education.

Howes, M. (2002). Reflexive modernization, the internet and democratic environmental decision making. Retrieved from https://doi.org/10.1177/1086026602153010

Ibemgbor, A. I. (2011). Environmental accounting and cost allocation: An analysis in manufacturing firms in Nigeria. *A Ph.D Thesis in the Department of Accountancy, Ebonyi state University, Abakiliki,* November, 2011.

International Accounting Standards Board (IASB). (2019). International Financial Reporting Standards (IFRS) 6: Exploration for and Evaluation of Mineral Resources: Accounting for Exploration and Evaluation Expenditure [PDF]. IASB Publications.

Kasum, A. S. & Osemene, O. F. (2010). Sustainable Development and Financial Performance of Nigerian Quoted Companies. *Department of Accounting and Finance, University of Ilorin, Ilorin, Nigeria.*

KPMG. (2021). ESG reporting trends and insights. Retrieved from https://home.kpmg/global

Lea, D. W. (2004). The 100 000-yr cycle in tropical SST greenhouse forcing and climate sensitivity. *Journal of climate 17.*

Lee, J.W.G., Pati, N. & Roh, J.J. (2011). Relationship between Corporate Sustainability Performance and Tangible Business Performance: Evidence from Oil and Gas Industry. *IJBIT 3*(3).

McWilliams, A., & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. Academy of Management Review, 26(1), 117-127.

Mehenna, Y. and Vernon, P. D. (2004). Environmental Accounting: An Essential Component of Business Strategy. *Business Strategy and the Environment Bus. Strat. Env. 13*, 65–77 DOI: 10.1002/bse.395.

Needles, B., Powers, M., & Crosson, S. (2013). Principles of Accounting (12th ed.). Cengage Learning.

Nkanga, E. (2007). Nigeria; Telecom operators and corporate social responsibility. *This Day, 31st Jan. 2007.* Retrieved from www.google.adservices.com

Okoye, P.V.C. & Ezejiofor, R.A. (2013). An appraisal of sustainability environmental accounting in enhancing corporate productivity and economic performance. *International Journal of Advanced Research 1* (8), 685-693.

Okoye, P.V.C., Oraka, A. & Ezejiofor, R. (2013). The Effects of Sustainability Reporting on the Growth of Corporate Organizations in Nigeria. *European Journal of Economics, Finance and Administrative Sciences 59.* ISSN 1450-2275.

Oriakhi, D., & Ohiokha, F. (2019). Oil exploration activities in Nigeria: A review of environmental effects. Journal of Sustainable Development Law & Policy (JSDLP), 10(1), 1-18.

Ratanajonkol, S., Davey, H. & Low, M. (2006). *Quantitative research in accounting management 3*(1) 67-83. Emerald Group Publishing Limited 1176-6093. Goi 10.1108/1176609061659751

Ross, A.S., Westerfield, R.W. & Jaffe, J. (2015) *Corporate finance 1*(6). McGraw-Hill/Irwin Primis. ISBN: 0 - 390-32000-5

Ross, S. A., Westerfield, R. W., & Jordan, B. D. (2015). Fundamentals of corporate finance (11th ed.). McGraw-Hill Education.

Sayedeh, P. S, & Saudah, S. (2014). A Proposed Model of the Relationship between Environmental Management Accounting and Firm Performance. *International Journal of Information Processing and Management 5*(3).

Schaltegger, S., & Burritt, R. (2017). Contemporary Environmental Accounting: Issues Concepts and Practice.

Schaltegger,S. & Burritt, R. (2015). Business cases and corporate engagement with sustainability: Differentiating ethical motivations. *J.BusEthics*. Doi 10.1007/S10551-015-2938-0

Schaltegger,S. & Wagner, M.(2006). Integrative management of sustainability performance measurement and reporting. *International Journal of Accounting, Auditing and Performance Evaluation 3*(1),1-19. Doi: 10.1504/IJAAPE.2006.010098

Slinger, G. & Deakin, S.(2001). Social inclusion: Possibilities and Tensions. *Contexto articulos sobre economia*. 39-46

Sustainability Accounting Standards Board. (2020). SASB Standards: Industry-specific Standards for Sustainable Disclosure.

Unerman, J., Bebbington, J., & O'Dwyer, B. (2007). Sustainability Accounting and Accountability. Routledge.

Van Horne, J.C. & Wachowicz, J.M. (2015). *Fundamentals of financial management* (12th ed). Harlow, Essex:Pearson Education ltd. ISBN 0273685147

Wibowo, A.J. (2012) Interaction between corporate social responsibility disclosure and profitability of Indonesia firms. *UMT 11th International Annual symposium on sustainability science management.* 373-380. Retrieved from http://www.academia.edu/download/30489834/be19-oral-pp-373-380.pdf