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# EFFECT OF EXTERNAL ENVIRONMENTAL ACCOUNTING DISCLOSURE ON CORPORATE PERFORMANCE OF LISTED OIL AND GAS COMPANIES IN NIGERIA

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## Abstract

Interest of various Stakeholders and Practitioners on environmental accounting disclosure has been constantly rekindled since conduct of United Nations Conference on Environment and Development (UNCED). The extent to which external environmental accounting disclosure affects corporate performance has remained a subject of concern among participants in the Oil and Gas companies in Nigeria. The study therefore examines the effect of external environmental accounting disclosure on the corporate performance of listed Oil and Gas companies in Nigeria. An *ex-post facto* research design was utilized for the study. The population [redacted] comprised eleven (11) listed Oil and Gas companies registered on the Nigerian Exchange Group (NGX) as of May 2023. A purposive sampling technique was used to select eighty (8) of the eleven (11) listed Oil and Gas companies from the NGX archives, covering the period from 2014 to

**Keyword:** External Environmental Accounting Disclosure, Carbon Emissions Disclosure, Corporate Performance, Oiland Gas Companies



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2023. Both descriptive and inferential statistics such panel regression analysis was used to analyse the extent to which external environmental accounting disclosure influence corporate performance of listed Oil and Gas companies in Nigeria. Findings from the panel regression analysis on the effects of external environmental accounting disclosure on corporate performance of listed Oil and Gas companies in Nigeria showed that one out of the four explanatory variables were significant in explaining the variation of corporate performance. The variableisProduct and Service (0.0057) and Carbon Emissions Disclosure (0.0205). Based on the summary of findings of this study, it was concluded that there is significant impact of external environmental accounting disclosure on financial performance of listed Oil and Gas companies in Nigeria. The study therefore recommends that Oil and Gas companies should create an environmental accounting disclosure index tailored to the Nigerian context. This index can help quantify and evaluate the level of disclosure across various companies, aiding stakeholders in assessing corporate accountability and sustainability efforts.

## Introduction

Besides the increasing call for action on corporate environmental accounting disclosure, it has been challenging for the world to understand the potential extent of economic disruption that environmental risks might pose (de Faria, Andrade, & da Silva Gomes, 2018). Energy sector's investors in the world have being under intense pressure to account for their role in climate change, asincrease attention on tackling global warming is focusing on Oil, Gas and Miningcompanies even to other companies that finance fossil fuel producers (Chelli, Durocher, & Fortin, 2018; Khalid, Atkins, & Barone, 2019; World Economic Forum, 2020).

This pressure has further awake concerns of Oil and Gas company's shareholder and auditors to intensify efforts and challenge the manner adopted by managers in assessing and disclosing the impact of environmental accounting in financial reports (Dragomir, 2010; de Faria, et al., 2018; Gaudencio, de Oliveira, Curi, Santana, Silva, & Meira, 2018).). Currently, many stakeholders, investors and practitioners are eager toknow extent Oil and Gas companies are complying or defaulting in recognizing the potential loss to asset values posed by environmental risk (Ismail, Rahman, & Hezabr, 2018). The gaps in environmental


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accounting disclosure occur as a result of the fact that the result of different costs of using nature was not appropriately captured and addressed, and this is because identify footprints are being considered in many instances as externalities that may beshifted to others or deferred. While the positive externalities i.e, the natural resources are been depleted and not being accounted for in the annual financial accounts, the companies however, do record it as depreciation element (Benlemlih, Shaukat, Qiu, & Trojanowski, 2018).

Within this purview, the issue created for ozone layer is other aspect of concerning when discussing environmental accounting. The depletion of ozone layer of the earth's atmosphere caused by emission of gasses through industrial activities and processes have given rise to various environmental hazards such as direct ultra-violet rays to the earth surface, global warming, pollution, degradation and loss of aquatic lives (Nathaniel, Matthew, Danjuma & Idris, 2020). The contribution of Oil and Gas producing companies to these industrial gas emissions with great concerns for sustainability of economic activity have madedisclosure ofenvironmental accounting in Oil and Gas sector an area of significant important and birthed interest of researchers and various stakeholders (American Cancer Society, 2015).

Recently, Oil and Gas companies are under severe pressure to operate in an environmentally responsible manner and to disclose information about their environmental performance. There is a hue and cry about the climate change and it is convincingly linked to not only manufacturing industries but also Oil and Gas companies' impacts on the environment which has resulted tooceans rising, global warming, deforestation, land degradation, pollution, depletion of natural resources among others (Berdugo & Mefor, 2012). Due to crude oil extraction, in the Oil and Gas producing states of Nigeria for example, the host communities are experiencing high pollutions from oil spillage, gas flaring, black soot, and clay soot, among others of which today the whole world is clamoring on climatic change agreement. Also, agitators (militants, oil communities and so on) from time to time react for their communities being marginalized and neglected without adequately compensated in spite that chunk of their endowed natural resources are being tapped away and their environment is highly degraded and polluted (Ojo, 2016).

Some of the problems concerning environmental accounting disclosure include identification of environmental cost, disaggregation of environmental cost into internal and external, measurement and allocation of environmental expenses,



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identification and measurement of environmental liabilities, capitalization of cost, measuring effect of environmental accounting disclosureexpenses on the profit, application of environmental laws and or standard, relationship between disclosure and corporate performance and relationship between environmental accounting disclosure and sustainability development. This makes it imperative for an in-depth study on the effect of external environmental accounting disclosure on corporate performance of listed Oil and Gas companies in Nigeria

**Literature review**

**Review of Previous Studies**

Hatice and Gökhan (2021) carried out study on evaluation of the relationship between environmental accounting and business performance: the case of Istanbul province. The purpose of this study is to evaluate the impact of environmental accounting approaches of businesses on the overall performance of businesses. Multiple linear regression analysis was conducted for evaluating the relationship between the environmental accounting approaches of businesses, and the overallperformance of businesses. The data was analyzed in the SPSS 20 software package. It was found that there is a mutually significant relationship between environmental accounting, and performance. However, the environmental accounting approaches of the companies covered by the study were found to be at low level.

Muhammad, Wasif, Shabbir and Ume (2018) studied relationship between environmental accounting and nonfinancial firms' performance: an empirical analysis of selected firms listed in Pakistan stock exchange, Pakistan. The study used regression analysis technique (REM), using companies' annual data from 2006-2016. The empirical analysis showed a significant positive relationship between environmental accounting and firm's size. While, earning per share and return on capital employed statistically turned out to be insignificant. It is suggested that government must give some tax relief to those firms, which work for the environmental protection and environmental reporting should be compulsory in Pakistan to have clean homeland.

Arumona, Lambe and Ogunmakinde (2020) studied the effect of Environmental Disclosure on Financial Performance of quoted oil and gas companies in Nigeria, using panel series data and regression analysis approach. The secondary data obtained from the annual reports of 12 oil and gas companies quoted on the floor of the Nigeria Stock Exchange (NSE) for 10 years ranging from year 2010- 2019

were used. The study found that Environmental Disclosure has positive and statistically significant effect on Financial Performance of quoted oil and gas companies in Nigeria during the period under review. The study concludes that Environmental Disclosurescontribute immensely to Nigeria's Oil and Gas companies to increase financial performance and profitability, as well as provide a springboard that can enable the country at large to emerge as an environmental-friendly nation.

Ikpor, Ituma and Okezie (2019) studied environmental accounting and sustainable financial performance: evidence from the Nigerian petroleum industry. The paper re-examined the effect of the neglected but important issue of environmental accounting in the context of how it affected sustainable financial performance of firms in Nigeria and analyzed through multiple regression method. The finding suggested that environmental operating costs and environmental prevention costs have significant and negative effect on the performance of petroleum firms in Nigeria. Saman (2019) researched environmental accounting and financial performance of oil and gas companies in Nigeria. The study employs the use of questionnaires in order toreceive direct (primary) information from companies that produces environmentally friendly products. The financial data on the independent variables: air pollution, water pollution, land degradation, staff welfare,community welfare, and externalities while performance measured by the Returnon Capital Employed (ROCE), Net Profit Margin (NPM), Dividend Per Share (DPS) and Earning Per Share (EPS).The findings in the study suggests among other things, that lack of environmental reporting and disclosure standardssignificantly affects the reporting and disclosure uniformity of environmental related information in financialstatements, annual reports and accounts. The study thereby gave some recommendations among others that government shouldmake environmental reporting in annual reports compulsory since most organizations hardly report theirenvironmental activities in their reports.

Ismail and Anwarul Islam (2019) observed the impact of environmental and social disclosures on the financial performance of oil and gas companies in Nigeria. Data were collected from theNigeria Stock Exchange (NSE) fact book and published financial statements of the oil and gas companies listed in the NSE with data ranging from 2010-2019.Multiple regression analysis was adopted as the technique of data analysis for the study. The data were analyzed using STATA 16 statistical package. The findings of the study show that corporate environmental and social



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disclosures have a significant impact on companies' performance at a 5% significant level. Because of this, the study concludes that environmental and social disclosures have improved companies' corporate performance over the years.

Peter and Mbu-Ogar (2018) assessed analysis of environmental and social disclosure and financial performance of selected quoted oil and gas companies in Nigeria (2012-2016). The data was analyzed using ordinary least square regression technique. Results from the statistical analysis revealed that disclosure on employee health and safety and community development do not significantly affect financial performance while disclosure on waste management had a positive and significant effect on firm's financial performance. The study recommended that oil and gas companies should constantly review their waste management strategy and employ bespoke technology in waste management to mitigate their impact on the environment. Tochukwu (2018) assessed environmental costs accounting and reporting on firm financial performance: a survey of quoted Nigerian oil companies. Regression analysis was employed with the aid of Statistical Package for Social Sciences (SPSS). It was found out that better environmental performance positively impact business value of an organization. Moreover, environmental accounting provides the organization an opportunity to reduce environmental and social costs and improve their performance.

Umoren, Akpan and Okafor (2018) investigated oil company performance and environmentalaccounting reporting in Nigeria. This study was conducted to examine the nature of relationship existing between environmental accounting reporting and Oil companies' performance in Nigeria. The data were analyzed using multiple regression analysis. The results of the analysis showed insignificant relationships between environmental accounting reporting and performance variables, that is, return on capital employed ($P$ = 0.175), net profit margin ($P$ = 0.95),, earnings per share ($P$ = 0.423), and dividend per share ($P$ = 0.542). Based on the findings, it is therefore recommended that government should make environmental disclosure compulsory and also impose sanctions on the violation by any Oil company in Nigeria.

Ifada, Indriastuti, Ibrani and Setiawanta (2021) examined environmental performance and environmental disclosure: The roleof financial performance variables. Effect of environmental performance, independent board of commissioners, and firmsize on environmental disclosure was measured by



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theIndonesian environmental index.This research was conducted byreviewing annual reports to collect information on environmental disclosures. The data analysis technique used was multiplelinear regression analysis with statistical hypothesis testing. The results showed that environmental performance, firm size, and financial performance each positively affectedenvironmental disclosure while the independent board ofcommissioners did not affect environmental disclosure. Thefindings of this research suggest that environmentalperformance variable has a significant positive effect on financialperformance.

Badingatus and Ukhti (2021) investigated the quality andscope of environmental disclosure inenvironmentally sensitive manufacturing firms inIndonesia. The researchers analyse the effect of media coverage,environmental award, and financial performance variables on the quality of environmental disclosure and the extent towhich the implementation of corporate governance principles moderate these factors. Multiple linear regression analysis was adopted. The results point out thatmedia coverage and environmental awards can improvethe quality of environmental disclosure and thecorrelation will increase if the company pays attention to the implementation of corporate governance principles.

**Methodology**

An *ex-post facto* research design was utilized for the study. The population comprised eleven (11) listed Oil and Gas companiesregistered on the Nigerian Exchange Group (NGX) as of May 2023. A purposive sampling technique was used to select eighty (8) of the eleven (11) listed Oil and Gas companiesfrom the NGX archives, covering the period from 2014 to 2023.Both descriptive and inferential statistics such panel regression analysis was used to analyse the extent to which external environmental accounting disclosure influence corporate performance of listed Oil and Gas companies in Nigeria..

**Results and Discussion**

**Pool regression analysis on the effect of external environmental accounting disclosure on corporate performance of listed Oil and Gas companies in Nigeria**

The pooled regression analysis in Table 1 examined the effect of external environmental accounting disclosures such as biodiversity, compliance, and other environmental disclosures on the corporate performance (measured by Earnings Per Share, EPS) of listed Oil and Gas companies in Nigeria.The constant, or intercept, is not statistically significant ($p = 0.2498$), meaning that when all

independent variables (environmental disclosures) are zero, the expected earnings per share (EPS) of the listed Oil and Gas companies would not significantly differ from zero. The positive coefficient suggested a slight positive effect, but it's not meaningful. The coefficient for waste management disclosure (WAS) is negative (-0.045520), implying that companies that disclose more about their waste management practices may experience a slight reduction in EPS. However, the relationship is not statistically significant (p = 0.5401), indicating that waste management disclosure does not have a meaningful impact on earnings per share.

Biodiversity disclosure (BIO) has a negative coefficient (-0.053882), suggesting that greater transparency in biodiversity-related activities is associated with a slight decline in EPS. However, the lack of statistical significance (p = 0.2685) means that biodiversity disclosure does not have a significant impact on corporate earnings per share. The coefficient for compliance disclosure (COMP) is positive (0.065975), indicating that firms disclosing more about their compliance with environmental regulations might experience a minor increase in EPS. However, this effect is not statistically significant (p = 0.4439), meaning that compliance disclosures do not meaningfully affect the earnings per share of these companies. Product and service stewardship disclosure (PSS) has a positive and statistically significant effect on EPS, with a coefficient of 0.060535 and a p-value of 0.0057 ($p < 0.05$). This means that companies that provide transparent information on their product and service stewardship (including their environmental and safety impacts) see a significant improvement in their earnings per share. The positive and significant result indicated that stewardship in product and service management is viewed favorably by stakeholders and positively impacts corporate financial performance. The R-squared of 0.632455 indicated that about 63.2% of the variation in earnings per share (EPS) is explained by the independent variables (environmental disclosures). The adjusted R-squared of 0.586186, which adjusts for the number of predictors, still shows a relatively high explanatory power, indicating that the model provides a good fit for the data.

The pooled regression analysis demonstrated that product and service stewardship disclosure (PSS) has a statistically significant and positive effect on the earnings per share (EPS) of listed Oil and Gas companies in Nigeria.


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**Table 1: Pool regression analysis on the effect of external environmental accounting disclosure on corporate performance of listed Oil and Gas companies in Nigeria**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.125638 | 0.108320 | 1.159875 | 0.2498 |
| WAS | -0.045520 | 0.073966 | -0.615412 | 0.5401 |
| BIO | -0.053882 | 0.048333 | -1.114816 | 0.2685 |
| COMP | 0.065975 | 0.085707 | 0.769769 | 0.4439 |
| PSS | 0.060535 | 0.021281 | 2.844529 | 0.0057 |
| R-squared | 0.632455 | Mean dependent var | | 0.123849 |
| Adjusted R-squared | 0.586186 | S.D. dependent var | | 0.364812 |
| S.E. of regression | 0.348737 | Akaike info criterion | | 0.791466 |
| Sum squared resid | 9.121333 | Schwarz criterion | | 0.940343 |
| Log likelihood | -26.65866 | Hannan-Quinn criter. | | 0.851155 |
| F-statistic | 2.862709 | Durbin-Watson stat | | 2.433262 |
| Prob(F-statistic) | 0.028954 | | | |

Source: Researcher's Computation, 2024

**Random effect regression analysis on the effect of external environmental accounting disclosure on corporate performance of listed Oil and Gas companies in Nigeria**

The Random Effects Regression Analysis in Table 2 examined the impact of external environmental accounting disclosures on corporate performance, measured by Earnings Per Share (EPS), of listed Oil and Gas companies in Nigeria. The key variables include Waste Management Disclosure (WAS), Biodiversity Disclosure (BIO), Compliance Disclosure (COMP), and Product and Service Stewardship Disclosure (PSS). The constant value (0.125638) indicated the baseline EPS when all independent variables (environmental disclosures) are zero. The coefficient is positive, but the p-value (0.2613) suggested that the constant is not statistically significant. This means it doesn't have a meaningful standalone influence on corporate performance. The coefficient for WAS is -0.045520, indicating a negative relationship between waste management disclosures and corporate performance (EPS). However, with a high p-value (0.5500), the result is not statistically significant. This suggested that waste management disclosure has no meaningful impact on the EPS of Oil and Gas companies.

The coefficient for BIO is -0.053882, indicated a slight negative effect on corporate performance. The p-value (0.2801) showed that this relationship is also not



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statistically significant, implied that biodiversity disclosures were not a strong predictor of EPS in this context. COMP has a positive coefficient (0.065975), suggesting a positive relationship between compliance disclosures and EPS. However, the p-value (0.4549) indicates that this effect is not statistically significant, meaning compliance disclosures do not significantly affect corporate performance.The coefficient for PSS is 0.060535, indicating a positive and statistically significant effect on EPS (p = 0.0069).This means that higher disclosures related to product and service stewardship are associated with better financial performance (EPS) for these companies.It suggests that stakeholders value transparency around how products and services are managed in terms of their environmental impact.

The R-squared value of 0.632455 means that approximately 63.2% of the variability in corporate performance (EPS) is explained by the external environmental accounting disclosures included in the model.The Adjusted R-squared of 0.586186 confirmed that the model has a reasonably good fit, indicating the variables provide a substantial explanation of EPS variations. The analysis suggests that Product and Service Stewardship Disclosure (PSS) has a significant positive effect on corporate performance (EPS) in the Oil and Gas sector, while other forms of environmental accounting disclosures (Waste Management, Biodiversity, and Compliance) do not have statistically significant impacts. This indicates that stakeholders may place more value on how companies manage the environmental aspects of their products and services, while other disclosures are not yet perceived as materially affecting corporate financial performance.

**Table 2: Random effect regression analysis on the effect of external environmental accounting disclosure on corporate performance of listed Oil and Gas companies in Nigeria**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.125638 | 0.111003 | 1.131841 | 0.2613 |
| WAS | -0.045520 | 0.075798 | -0.600538 | 0.5500 |
| BIO | -0.053882 | 0.049530 | -1.087871 | 0.2801 |
| COMP | 0.065975 | 0.087830 | 0.751164 | 0.4549 |
| PSS | 0.060535 | 0.021808 | 2.775777 | 0.0069 |
| R-squared | 0.632455 | Mean dependent var | | 0.123849 |
| Adjusted R-squared | 0.586186 | S.D. dependent var | | 0.364812 |
| S.E. of regression | 0.348737 | Sum squared resid | | 9.121333 |
| F-statistic | 2.862709 | Durbin-Watson stat | | 2.433262 |
| Prob(F-statistic) | 0.028954 | | | |

Source: Researcher's Computation, 2024



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**Fixed effect regression analysis on the effect of external environmental accounting disclosure on corporate performance of listed Oil and Gas companies in Nigeria**

The Fixed Effect Regression Analysis in Table 3 evaluates how external environmental accounting disclosures affect corporate performance, measured by Earnings Per Share (EPS), of listed Oil and Gas companies in Nigeria. The key variables include Waste Management Disclosure (WAS), Biodiversity Disclosure (BIO), Compliance Disclosure (COMP), and Product and Service Stewardship Disclosure (PSS). The coefficient of the constant is 0.075376, suggesting that when all environmental disclosures are zero, the baseline EPS is 0.075. However, the p-value (0.6309) is not statistically significant, meaning the constant has no meaningful influence on corporate performance when all other variables are held constant.

The coefficient for WAS is -0.091291, indicating a negative relationship between waste management disclosures and corporate performance (EPS).The p-value (0.3300) is not statistically significant, implying that waste management disclosures do not have a significant effect on EPS.The coefficient for BIO is -0.005800, showing a small negative effect on EPS.With a p-value of 0.9326, the result is far from statistically significant, indicating that biodiversity disclosures do not meaningfully impact the corporate performance of Oil and Gas companies.The coefficient for COMP is 0.102480, suggesting a positive relationship between compliance disclosures and EPS.However, the p-value (0.2873) shows that this effect is not statistically significant, meaning compliance disclosure is not a strong determinant of EPS in this sample.PSS has a positive coefficient of 0.077509, indicating a significant positive relationship with EPS.The p-value (0.0392) is statistically significant, meaning that disclosing information related to product and service stewardship has a meaningful and positive impact on corporate performance.

The R-squared is 0.173978, meaning only about 17.4% of the variability in corporate performance (EPS) is explained by the model's independent variables.The Adjusted R-squared of 0.040357 shows a low explanatory power of the model. This suggests that other factors not captured by these variables may explain a significant portion of the variation in corporate performance.The F-statistic of 1.302028 has a Prob. (F-statistic) of 0.242504, indicating that the overall model is not statistically significant at conventional levels (e.g., 5%). This suggests that, collectively, the variables do not significantly explain changes in corporate



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performance (EPS). The Durbin-Watson statistic of 2.538506 is close to the ideal value of 2, suggesting that there is no significant autocorrelation in the residuals (i.e., errors) of the model.

Product and Service Stewardship Disclosure (PSS) is the only variable with a statistically significant positive effect on corporate performance (EPS), indicating that more comprehensive disclosure about environmental stewardship related to products and services leads to better financial performance. Other disclosures, such as waste management (WAS), biodiversity (BIO), and compliance (COMP), do not show significant impacts on corporate performance. The model as a whole explains only a small portion of the variance in EPS, and other external factors not included in this model likely have a more substantial influence on the financial

**Table 3: Fixed effect regression analysis on the effect of external environmental accounting disclosure on corporate performance of listed Oil and Gas companies in Nigeria**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.075376 | 0.156153 | 0.482707 | 0.6309 |
| WAS | -0.091291 | 0.093037 | -0.981234 | 0.3300 |
| BIO | -0.005800 | 0.068364 | -0.084838 | 0.9326 |
| COMP | 0.102480 | 0.095549 | 1.072536 | 0.2873 |
| PSS | 0.077509 | 0.036854 | 2.103154 | 0.0392 |
| R-squared | 0.173978 | Mean dependent var | | 0.123849 |
| Adjusted R-squared | 0.040357 | S.D. dependent var | | 0.364812 |
| S.E. of regression | 0.357375 | Akaike info criterion | | 0.917420 |
| Sum squared resid | 8.684756 | Schwarz criterion | | 1.274724 |
| Log likelihood | -24.69679 | Hannan-Quinn criter. | | 1.060673 |
| F-statistic | 1.302028 | Durbin-Watson stat | | 2.538506 |
| Prob(F-statistic) | 0.242504 | | | |

Source: Researcher's Computation, 2024

**Discussion of Findings**

The analysis shows that Product and Service Stewardship Disclosure (PSS) has a positive and statistically significant effect on the corporate performance of listed Oil and Gas companies, with a coefficient of 0.060535 and a p-value of 0.0057. This finding aligns with previous literature that emphasizes the importance of



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stewardship over the environmental and safety aspects of products and services in improving a company's reputation and financial performance. For example, Eccles, Ioannou, and Serafeim (2014) found that firms adopting sustainable practices, particularly those related to product and service impact on the environment, tend to outperform their counterparts in the long run. Product and service stewardship disclosures help firms address environmental concerns and provide transparency, which can enhance investor confidence and customer loyalty, ultimately improving financial metrics such as EPS. Similarly, Hart and Ahuja (1996) argue that firms that integrate environmental stewardship into their product life cycles, particularly in polluting industries like Oil and Gas, can reduce costs associated with waste and inefficiencies while improving their market perception, thus driving higher returns.

Waste management disclosure (WAS) was found to have a negative coefficient (-0.045520), but it was not statistically significant ($p = 0.5401$). This suggests that waste management disclosures do not meaningfully impact the financial performance of Nigerian Oil and Gas companies. While some studies, such as those by Clarkson et al. (2011), suggest that improved waste management disclosures can reduce regulatory risks and lead to better financial performance, others point out that simply disclosing waste management practices without significant reduction in waste or improvement in processes might not be enough to affect profitability (Rao& Holt, 2005). In the case of the Nigerian Oil and Gas sector, it seems that disclosures related to waste management have not been impactful enough to affect earnings.

The coefficient for Biodiversity Disclosure (BIO) was negative (-0.053882) but also not statistically significant ($p = 0.2685$). This finding implies that, while there is a negative association between biodiversity disclosure and EPS, it is not strong enough to conclude a definitive impact. Liesen et al. (2015) suggest that biodiversity disclosures are often considered a more indirect aspect of environmental performance and may not immediately translate into financial returns. Given the technical and sector-specific nature of biodiversity impacts, disclosures in this area may not yet be fully appreciated by the market or investors. In the Oil and Gas industry, which is traditionally viewed as environmentally invasive, biodiversity disclosures might be perceived more as compliance with regulations rather than a strategic improvement initiative (Deegan & Rankin, 1996).

Compliance Disclosure (COMP) had a positive coefficient (0.065975) but was not statistically significant (p = 0.4439). This indicates that compliance disclosures, while potentially beneficial, do not significantly influence corporate performance in terms of EPS in this sample. This finding resonates with some earlier studies, which argue that compliance-focused disclosures are often reactive rather than proactive, and therefore may not yield substantial financial benefits (Boiral, 2007). Firms that focus primarily on meeting regulatory requirements, without integrating these practices into their core strategy, may not see the same financial returns as those who exceed compliance and adopt proactive environmental strategies (Bebbington, Larrinaga, & Moneva, 2008).

The R-squared of 0.632455 indicates that approximately 63.2% of the variability in corporate performance (EPS) is explained by the model, which includes environmental disclosures related to product and service stewardship, waste management, biodiversity, and compliance. The adjusted R-squared value of 0.586186 confirms that the model fits reasonably well, supporting the idea that environmental accounting disclosures have a substantial influence on corporate financial performance. This is consistent with findings in literature that point to environmental disclosure as a critical factor influencing financial performance. In a study by Hassel, Nilsson, and Nyquist (2005), the authors found a significant relationship between environmental performance disclosures and stock market performance, especially in environmentally sensitive industries like Oil and Gas. Similarly, Margolis and Walsh (2003) suggested that companies with higher levels of environmental transparency could build stronger relationships with investors, leading to better financial outcomes.

When comparing these findings with studies from other regions or sectors, it becomes evident that the impact of environmental accounting disclosures on corporate performance can vary significantly based on the industry and geographical context. For instance, a study by Prado-Lorenzo et al. (2009) found that environmental disclosures in European oil firms had a more direct and significant effect on performance, possibly due to stricter environmental regulations and a higher demand for corporate social responsibility (CSR) among European investors. In contrast, Nigerian companies may face different market dynamics and regulatory environments, where compliance with minimum standards is prioritized over voluntary, strategic environmental initiatives. As such, the findings of this study suggest that, while product and service stewardship disclosures are appreciated by stakeholders and positively affect performance,

other forms of environmental accounting disclosure, such as waste management and biodiversity, have not yet gained the same level of importance.

The findings indicate that product and service stewardship disclosures significantly impact the financial performance of Nigerian Oil and Gas companies, supporting literature that highlights the strategic importance of environmental stewardship. Other disclosures, such as waste management, biodiversity, and compliance, do not exhibit statistically significant effects on earnings per share, suggesting that these forms of environmental transparency may not yet resonate as strongly with investors or affect financial outcomes in the Nigerian context. Future research could explore how the evolving regulatory landscape and market demands may alter the importance of these disclosures in the coming years.

**Conclusion and Recommendations**

Based on the summary of findings of this study, it was concluded that external environmental accounting disclosure has significant effects on financial performance of listed Oil and Gas companies in Nigeria. It is therefore recommended that Oil and Gas companies should create an environmental accounting disclosure index tailored to the Nigerian context. This index can help quantify and evaluate the level of disclosure across various companies, aiding stakeholders in assessing corporate accountability and sustainability efforts. Also, Oil and Gas companies should undertake empirical studies that focus specifically on the relationship between internal environmental accounting practices (e.g., cost accounting, budgeting for environmental initiatives) and various performance indicators (e.g., profitability, efficiency).

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