



The Effect of Environmental Sustainability Disclosure and the Financial Performance of Quoted Consumer Goods Companies in Nigeria.

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Abstract

This study investigates the effect of environmental sustainability disclosure (ENVD) on the financial performance of quoted consumer goods companies in Nigeria. Using an *ex post facto* research design, the study analysed panel data from 18 listed consumer goods companies over the period 2013-2022 (180 firm-year observations). Panel regression models were estimated after conducting appropriate diagnostic tests, with the Fixed Effects model applied to return on assets (ROA) and the Random Effects model applied to earnings per share (EPS).

The findings reveal that environmental sustainability disclosure has a negative but statistically insignificant effect on both accounting-based (ROA) and market-based (EPS) financial performance. Among the control variables, leverage exerts a significant negative influence on financial performance, whereas firm size has no significant effect. The results suggest that the current level of environmental sustainability disclosure among Nigerian consumer goods companies has not translated into measurable improvements in financial performance.

The study contributes to the environmental accounting literature by providing robust evidence from an emerging economy using panel data techniques that account for firm-specific heterogeneity. The findings underscore the need for firms to strengthen the quality and credibility of environmental sustainability disclosures to enhance stakeholder confidence and support long-term value creation.

Keywords: *Environmental Sustainability Disclosure, Financial Performance, ROA, EPS, Panel Data, Nigeria, Consumer Goods Sector*

Introduction

Sustainability reporting has become a critical component of contemporary corporate reporting due to growing global concerns over climate change, biodiversity loss, environmental degradation, resource depletion, and social inequality. The development of sustainability reporting frameworks by the International Federation of Accountants (IFAC) and the Global

Reporting Initiative (GRI) has encouraged organisations to integrate environmental, social, and governance (ESG) issues into their reporting practices to enhance transparency, accountability, and long-term value creation (Yan et al., 2022). Consequently, stakeholders including investors, regulators, employees, financial institutions, and host communities increasingly expect firms to disclose not

only their financial performance but also the environmental and social impacts of their operations (Abd-Mutalib & Shafai, 2023; Hubbard, 2018; Jamil et al., 2021). Such disclosures are expected to reduce information asymmetry, strengthen stakeholder confidence, improve corporate reputation, and support sustainable business performance (Du & Zhang, 2020; Joshua Rayan, 2020).

Despite these potential benefits, sustainability reporting remains contentious because compliance involves substantial implementation costs that may conflict with firms' short-term profit objectives (Omaliko et al., 2020). Although numerous studies suggest that sustainability disclosure enhances corporate performance, empirical evidence remains mixed and inconclusive, particularly in developing economies. While developed countries have witnessed considerable improvements in sustainability reporting following regulatory reforms, reporting in Nigeria remains largely voluntary and relatively low (Ajepe et al., 2021; Hu et al., 2020). This challenge is particularly relevant to the consumer goods sector, whose manufacturing activities contribute substantially to greenhouse gas emissions, waste generation, energy consumption, water use, and other environmental externalities. Given the sector's strategic contribution to Nigeria's economy and the recent performance challenges experienced by several listed firms, understanding whether environmental sustainability disclosure translates into improved corporate performance has become both an academic and policy concern.

The increasing global adoption of sustainability reporting further underscores the need for empirical investigation. Reports published by the Global Reporting Initiative (GRI) indicate a continuous increase in the number of organisations issuing sustainability reports, reflecting growing recognition that responsible environmental and social practices enhance long-term competitiveness, operational efficiency, corporate legitimacy, and shareholder value (GRI, 2021; Peiyuan et al., 2017). However,

evidence from Nigeria indicates that both the quality and extent of sustainability disclosures remain relatively low compared with international standards (Ajepe et al., 2021). This gap has been attributed partly to the voluntary nature of sustainability reporting in Nigeria and partly to the uncertainty surrounding its economic benefits for firms.

Existing literature also reveals several methodological and contextual gaps. First, most previous studies have concentrated on the determinants or value relevance of sustainability reporting rather than its direct implications for firm performance (Aureli et al., 2020; Dyduch & Krasodomska, 2017; Hahn & Kühnen, 2013; Kuzey & Uyar, 2017; Vitolla et al., 2020). Second, studies examining the sustainability reporting–performance relationship have predominantly relied on accounting-based performance indicators such as return on assets (ROA), while relatively few have simultaneously considered market-based indicators such as earnings per share (EPS), resulting in inconsistent empirical findings (Albitar et al., 2020; Hongming et al., 2020). Third, many Nigerian studies aggregate sustainability reporting into a single construct or focus primarily on the banking and oil and gas sectors, leaving the consumer goods industry relatively underexplored despite its significant environmental footprint (Erhirhie & Ekwueme, 2019; Okolie & Igaga, 2020). These limitations justify further empirical investigation using sector-specific evidence from Nigeria.

Against this background, this study investigates the effect of environmental sustainability disclosure on both accounting-based and market-based measures of firm performance among quoted consumer goods companies in Nigeria. Specifically, the study seeks to: (i) examine the effect of environmental sustainability disclosure on return on assets (ROA); and (ii) evaluate its effect on earnings per share (EPS). Accordingly, the study addresses the following research questions:

- i. What is the effect of environmental sustainability disclosure on the

- financial performance (ROA) of quoted consumer goods companies in Nigeria?
- ii. ii. How does environmental sustainability disclosure influence the market-based performance (EPS) of quoted consumer goods companies in Nigeria?

To achieve these objectives, the study tests the following null hypotheses:

H0₁: Environmental sustainability disclosure has no significant effect on the financial performance (ROA) of quoted consumer goods companies in Nigeria.

H0₂: Environmental sustainability disclosure has no significant effect on the market-based performance (EPS) of quoted consumer goods companies in Nigeria.

This study contributes to the sustainability accounting literature by providing contemporary evidence from an environmentally sensitive but relatively under-investigated sector of the Nigerian economy. Unlike many previous Nigerian studies that focused predominantly on financial institutions and oil and gas firms, this study examines quoted consumer goods companies using both accounting-based (ROA) and market-based (EPS) performance measures. The findings are expected to provide useful insights for regulators, investors, corporate managers, and policymakers regarding the economic implications of environmental sustainability reporting and to support evidence-based improvements in corporate sustainability reporting practices in Nigeria.

The study covers all twenty-one (21) consumer goods companies listed on the Nigerian Exchange Group (NGX) as of 31 December 2022 and employs balanced panel data covering the 2013-2022 financial years. The selected period captures recent developments in sustainability reporting and provides sufficient observations for robust panel data analysis.

Literature Review

This section reviews the literature on firm performance and environmental sustainability disclosure, which constitute

the dependent and independent variables of the study, respectively. It further presents the theoretical foundation and empirical evidence underpinning the study.

The Nigerian Exchange Group (NGX) comprised eleven sectors as of 31 December 2022, including agriculture, conglomerates, consumer goods, construction, financial services, healthcare, information and communication technology (ICT), industrial goods, oil and gas, natural resources, and services. Among these, the consumer goods sector occupies a strategic position because it manufactures products that satisfy basic consumer needs, including food and beverages, home care, and personal care products (KPMG, 2020). Recent studies classify the sector as part of the fast-moving consumer goods (FMCG) industry, reflecting its high production volume, continuous consumer demand, and significant contribution to Nigeria's manufacturing sector and economic development (Eze et al., 2024; KPMG, 2023; Meristem, 2023).

The consumer goods industry contributes substantially to employment, tax revenue, manufacturing output, and gross domestic product (GDP), making it one of the key drivers of Nigeria's economic diversification agenda (West, 2023). However, the sector also faces significant challenges arising from inflationary pressures, supply chain disruptions, rising production costs, and changing consumer purchasing behaviour, all of which have implications for corporate profitability and long-term sustainability (KPMG, 2023; Meristem, 2023). Given the environmental footprint associated with manufacturing activities, integrating sustainability practices into corporate operations and reporting has become increasingly important for improving stakeholder confidence, enhancing corporate reputation, and supporting sustainable financial performance.

Concept of Firm Performance

Firm performance represents an organisation's ability to utilise available resources efficiently to achieve its financial and strategic objectives. It reflects

management's effectiveness in generating profits, increasing firm value, and ensuring the long-term sustainability of business operations (Joshua et al., 2019). Financial performance is commonly evaluated based on a firm's ability to generate returns from its assets and investments while creating value for shareholders (Abubakar, 2018; Dioha et al., 2018). Consequently, firms with superior financial performance are generally better positioned to create employment opportunities, fulfil corporate social responsibilities, stimulate innovation, contribute tax revenue, and promote national economic development (Odusanya et al., 2018).

The literature recognises that firm performance is multidimensional and can be assessed using both accounting-based and market-based measures. Although several financial ratios including gross profit ratio, operating profit ratio, net profit ratio, return on investment, and return on capital employed have been employed to evaluate organisational performance (Nishanthini & Nimalathasan, 2013), accounting and finance scholars predominantly rely on return on assets (ROA), return on equity (ROE), and earnings per share (EPS) because these indicators effectively capture managerial efficiency in generating returns from corporate assets and shareholders' investments (Chandrakumarmangalam & Govindasamy, 2010; Frezwd, 2016; Osuji & Odit, 2012; Uwuigbe & Uadiale, 2012). Consistent with the objectives of this study, firm performance is measured using two complementary indicators. The first is return on assets (ROA), an accounting-based measure that evaluates management's efficiency in generating profit from the firm's total assets. The second is earnings per share (EPS), a market-based measure that reflects the amount of earnings attributable to each ordinary share and serves as an important indicator of shareholder value and investment performance. The combined use of ROA and EPS provides a more comprehensive assessment of corporate performance by capturing both internal operating efficiency and market-related outcomes.

Return on Assets (ROA)

Return on Assets (ROA) is one of the most widely used accounting-based measures of firm performance because it evaluates management's efficiency in generating profits from the firm's total assets. ROA reflects the extent to which organisational resources are effectively utilised to create earnings and enhance operational performance (Atidhira & Yustina, 2017). Similarly, Heikal et al. (2014) describe ROA as an indicator of management's ability to generate profits through efficient asset utilisation and effective cost management. A higher ROA generally signifies superior managerial efficiency and stronger financial performance, whereas a lower ROA may indicate operational inefficiency and ineffective asset utilisation. Owing to its ability to measure internal operating efficiency, ROA has become one of the most frequently adopted accounting-based performance indicators in corporate finance and sustainability reporting research.

Earnings Per Share (EPS)

Earnings per Share (EPS) is a performance indicator that measures the portion of a company's net earnings attributable to each outstanding ordinary share. It is computed by dividing profit after tax by the weighted average number of ordinary shares outstanding during the accounting period (Badruzaman, 2020). EPS serves as an important indicator of shareholder wealth and managerial performance because it reflects the firm's capacity to generate returns for equity investors (Bhatt & Sumangala, 2012). Although previous studies have debated the predictive power of EPS for stock price movements (Umar & Musa, 2014), it remains one of the most widely used indicators by investors and financial analysts in evaluating corporate profitability and investment attractiveness. Generally, higher EPS indicates stronger financial performance and greater potential for dividend distribution and shareholder value creation.

Concept of Environmental Disclosure

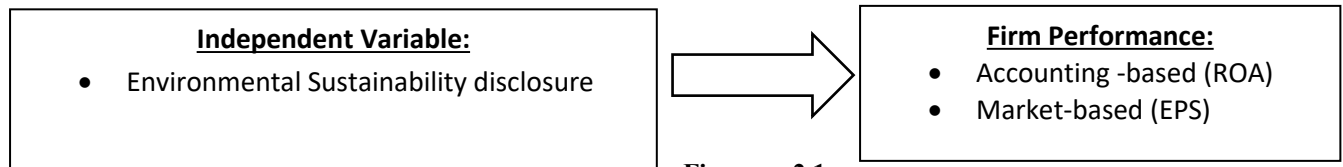
Environmental disclosure constitutes one of the principal dimensions of sustainability reporting, a concept popularised through John Elkington's Triple Bottom Line framework, which integrates economic, environmental, and social performance into corporate reporting (Elkington, 1997). Sustainability reporting broadly refers to an organisation's commitment to conducting business in an economically viable, socially responsible, and environmentally sustainable manner (Diantimala, 2018). According to Aifuwa (2020), sustainability reporting combines the principles of sustainability with corporate disclosure by communicating information on how organisations satisfy present needs without compromising the ability of future generations to meet their own needs. The Global Reporting Initiative (GRI), established in 2000, provides the most widely recognised international framework for reporting environmental, social, and governance (ESG) information, thereby promoting consistency, transparency, and comparability in sustainability reporting (GRI, 2022).

Sustainability reporting encompasses both qualitative and quantitative disclosures that enable stakeholders to evaluate an organisation's environmental, social, and economic performance comprehensively (Schaltegger & Burritt, 2017). Such disclosures reduce information asymmetry, enhance corporate transparency, and provide investors and other stakeholders with relevant non-financial information for informed decision-making. Consequently, sustainability reports have become an important complement to traditional financial statements by communicating information on corporate sustainability initiatives and performance.

Environmental disclosure specifically refers to the systematic communication of information relating to an organisation's environmental policies, objectives, programmes, resource utilisation, environmental risks, pollution control measures, and environmental performance (Uwuigbe et al., 2018). Its primary objectives are to improve corporate accountability, facilitate the assessment of environmental risks, and strengthen stakeholder confidence through greater transparency (Borges & Bergamini, 2019). Consequently, environmental reporting has evolved into a central component of corporate sustainability reporting and environmental accounting. According to Schaltegger and Burritt (2017), environmental reports provide stakeholders with credible and objective information regarding an organisation's environmental management practices and sustainability performance, thereby supporting informed investment decisions and promoting responsible corporate behaviour.

Conceptual Framework

Flowing from the above theoretical reviews, the study finds the stakeholder's theory to be the most suitable for underpinning the expected relationships between the selected categories of sustainability reporting and measures of firm performance of quoted consumer goods companies in Nigeria. This is justified considering that the stakeholder theory stresses the need for companies to move beyond the traditional focus on profit maximisation to a broader approach of accommodating the interests of all the organisation's stakeholders, which is where sustainability reporting comes in. Consequently, the study presents its research framework, which illustrates the expected relationships among the selected variables, as depicted in Figure 2.1 below.

Figure 2.1: Research Framework**Figure 2.1:****Heuristic Model of the Study**

Source: "Authurs' Conceptualization" 2026

Theoretical Review

Three theories underpin this study: stakeholder theory, legitimacy theory, and political economy theory. Stakeholder theory, introduced by Freeman (1984), argues that organisations have a responsibility to disclose corporate information to stakeholders concerning their most important activities (Maria et al., 2011). The theory suggests that all stakeholders have a right to be provided with information on how organisational activities impact them, even if they choose not to use it (Deegan, 2000). Companies voluntarily disclose information to meet the demands of stakeholders who have the power to control the resources required by the organisation (Guthrie et al., 2004). Legitimacy theory posits that organisations must ensure that their operational activities align with community norms or rules (Deegan, 2002; Supriyadi & Sulistiyo, 2019). According to Suchman (1995), legitimacy strives to align assumptions and perceptions that all the company's activities are desirable, appropriate, and align with the norms commonly observed in social life. Political economy theory, as defined by Deegan (2007), embraces the perspective that society, politics, and economics are inseparable, and one cannot meaningfully investigate economic issues without considering the political, social, and institutional framework that underpins economic activity. The theory posits that accounting reports serve as social, political, and economic documents that construct, sustain, and legitimise economic and political arrangements contributing to corporate private interests (Kent & Stewart, 2008).

Empirical Review

Several empirical studies have examined the relationship between environmental sustainability disclosure and firm performance, with mixed findings. Oraka (2021) examined the impact of environmental costs on the financial performance of oil and gas businesses listed on the NGX and found that compliance and environmental remediation expenditures significantly impact Tobin's Q. Similarly, Oti et al. (2021) evaluated the impact of environmental expenses on the return on investment of publicly traded companies in Nigeria and found a notable correlation between employee well-being and safety, waste management, community growth, and financial gains. Emeka-Nwokeji and Okeke (2019) found that aggregate environmental disclosures significantly boosted business performance among nonfinancial firms listed on the NGX. In the Indian context, Makori and Jagongo (2021) found a positive correlation between environmental expenses and net profit margin and dividends per share. Bassey et al. (2021) investigated environmental accounting and reporting in Nigeria's Niger Delta region and found a substantial impact on business profitability from environmental expenditures. Asuquo (2021) concluded that environmentally responsible policies and competitiveness have a considerable positive impact on business performance.

Conversely, Umoren et al. (2018) examined the connection between environmental accounting reporting and the success of Nigeria's oil industry and found no statistically significant links between environmental reporting and performance metrics (ROCE, NPM, EPS, and DPS). Khan et al. (2020) found that green practices significantly boosted companies' reputation and success in Pakistan. Indriastuti and

Chariri (2021) found that carbon performance positively impacted financial performance, while environmental performance had a negative impact among Indonesian mining companies. Olatunde et al. (2021) found a positive correlation between environmental accounting and ROCE, NPM, ROE, and ROA among Nigerian oil and gas firms. Al-Waeli et al. (2021) observed that the relationship between financial performance and environmental disclosure exhibited a higher proportion of positive outcomes (61.29%) compared to negative outcomes (38.71%) in Iraq. These mixed findings underscore the need for further empirical investigation, particularly in the Nigerian consumer goods sector, where limited research exists on the environmental disclosure-financial performance nexus.

Methodology

The study adopted an *ex post facto* research design based on secondary data collected from audited annual reports of quoted consumer goods companies in Nigeria. The population comprised all twenty-one (21) consumer goods companies quoted on the Nigerian Exchange Group (NGX) as of December 31, 2022 (NGX, 2023). A census sampling approach was employed, selecting all 21 companies to enhance generalisation potential. However, a two-point filter criterion was applied: companies must have been quoted throughout the study period (2013-2022) and possessed complete data required for the analysis. Following these criteria, three companies were excluded for example BUA Plc (listed January 5, 2022, with insufficient historical data) and Multi-Trex Integrated Foods Plc (no audited reports since 2014) resulting in a final sample of eighteen (18) consumer goods

companies, yielding one hundred and eighty (180) balanced firm-year observations.

Data were sourced from the audited annual reports and financial statements of selected companies for the period 2013-2022. The dataset was subjected to pre-regression analyses, including descriptive statistics, correlation analysis, and diagnostic tests for multicollinearity (VIF), heteroskedasticity (Breusch-Pagan/Cook-Weisberg), and model specification (Hausman test). The Hausman specification test guided the choice between fixed effects and random effects models.

Model Specification

Following the conceptual framework, the study specifies two panel regression models adapted from Abd-Mutalib and Shafai (2023) and Emeka-Nwokeji et al. (2019), modified to incorporate dual firm performance measures: ROA (accounting-based) and EPS (market-based). The functional form is $Y_1 = f(\text{environmental disclosure}) \dots \dots \dots \text{equ. (1)}$, where Y_1 represents firm performance proxied by ROA and EPS, and environmental sustainability disclosure is the independent variable. Prior studies (Aifuwa, 2020; Buallay et al., 2019) suggest additional factors influencing firm performance; hence, firm size (FSIZE) and leverage (LEV) are included as control variables. Large firms are more incentivised to align with disclosure requirements due to visibility, while highly leveraged firms may lack financial capacity for cost-implicational sustainability practices (Aifuwa, 2020; Kamatra et al., 2015). The equation (1) is rewritten in econometric form with the inclusion of the two control variables, as shown below:

Model 1: Return on Assets (ROA)

$$ROA_{it} = \beta_0 + \beta_1 ENVD_{it} + \beta_2 FSIZE_{it} + \beta_3 LEV_{it} + \epsilon_{it} \dots (2)$$

Model 2: Earnings Per Share (EPS)

$$EPS_{it} = \beta_0 + \beta_1 ENVD_{it} + \beta_2 FSIZE_{it} + \beta_3 LEV_{it} + \epsilon_{it} \dots (3)$$

Where: ROA= Return on Asset (Dependent variable); EPS = Earnings per share (Dependent variable); ENVD = Environmental Sustainability disclosure; FSIZE = firm size; LEV = Leverage; β_0 = Model intercept; $\beta_1, \beta_2, \beta_3$ = Coefficient to be estimated, where $\beta_1, \dots, \beta_3 > 0$; it = Cross Section of listed companies with time variant; and μ = stochastic error term.

Table 1: Measurement and description of variables

Variable	Type	Measurement	Sources
Return on assets (ROA)	Dependent	Net income divided by total assets	Ioannou and Serafeim (2021)
Earnings per share (EPS)	Dependent	Net income divided average number of shares outstanding	Ioannou and Serafeim (2021)
Environmental Sustainability disclosure (ENVD)	Independent	Content Analysis based on the Global Reporting Initiative (GRI, 2018)	Daniel, Mogaka, Makori, Ambrose and Jagongo (2021)
Firm size (FSIZE)	Control	Natural logarithm of total assets	Dobbs & Standa, (2016)
Leverage (LEV)	Control	Total debt divided by total assets	Hussain (2015)

Source: Researcher's Compilation, 2026

Results and Discussion

Descriptive Statistics

The results of the descriptive statistics of the variables are presented in Table 2.

Table 2: Summary of the descriptive statistics of the study variables

Variable	Mean	Std.	median	Min	Max	N. obs	Skewness	Kurtosis
ROA	0.0645	0.5607	0.0360	-2.3600	6.1740	180	7.5027	85.6600
EPS	3.1147	10.1665	0.5750	-5.7430	61.7740	180	4.3192	21.5207
ENVD	0.2752	0.1008	0.2920	0.0000	0.4580	180	-0.7013	4.1740
LEV	1.3493	3.2133	0.6090	0.1940	19.5570	180	4.3516	21.2395
FSIZE	17.0982	2.2836	17.5870	10.9560	20.3180	180	-0.8432	3.0604

Source: Author's Computation (2026)

The descriptive statistics (Table 2) reveal that based on 180 firm-year observations, ROA (mean = 0.0645, SD = 0.5607, range: -2.36 to 6.174) and EPS (mean = 3.1147, SD = 10.1665, range: -5.743 to 61.774) exhibit considerable heterogeneity and significant non-normality (skewness: 7.5027 and 4.3192; kurtosis: 85.66 and 21.52), necessitating robust estimation techniques (Gujarati & Porter, 2009; Hair et al., 2019; Wooldridge, 2020). ENVD has a low-to-moderate mean of 0.2752, ranging from 0 (non-disclosure) to 0.458 with sufficient variation (SD = 0.1008) for meaningful analysis. LEV (mean = 1.3493, skewness = 4.3516) exhibits positive skewness suggestive of outliers, while FSIZE (mean = 17.0982, skewness = -0.8432) demonstrates relatively normal distribution. The pronounced non-normality of financial performance indicators underscores the importance of appropriate panel data econometric techniques to accurately

ascertain the relationship between ENVD and firm performance.

Correlation Analysis

Correlation is a bivariate analysis that measures the strength of the association between two variables and the direction of the association (Jeroh & Okoye, 2015; Jeroh & Ekwueme, 2015; Izukwe & Jeroh, 2022; Jeroh & Efeyunmi, 2022; Monye-Emina & Jeroh, 2022; Jeroh, 2023). Table 4.2 displays the outcome of this analysis, highlighting key inter-variable associations. In terms of the strength of the association, the value of the correlation coefficient varies between +1 and -1. A value of ± 1 indicates a perfect degree of association between the two variables, meaning that as the correlation coefficient value goes towards 0, the association between the two variables will be weaker. The direction of the association is indicated by the sign of the coefficient; a plus sign

indicates a positive association, and a minus sign indicates a negative association. The

outcome of the correlation matrix is presented in Table 3 below.

Table 3 Correlation Analysis Results

<i>Variable</i>	<i>ROA</i>	<i>EPS</i>	<i>ENVD</i>	<i>LEV</i>	<i>FSIZE</i>
<i>ROA</i>	1.0000				
<i>EPS</i>	0.0744	1.0000			
<i>ENVD</i>	- 0.0207	0.0764	1.0000		
<i>LEV</i>	0.0535	-	-	1.0000	
<i>FSIZE</i>	-	0.0581	0.2448	-	1.0000
	0.0589	0.2704	0.5646	0.5707	

Source: Author's Computation (2026)

The Pearson correlation matrix (Table 3) provides preliminary insights into the pairwise relationships among variables. The correlation between ENVD and ROA is - 0.0207 (negligible negative), while ENVD and EPS show a weak positive relationship (0.0764), implying no strong linear association at the bivariate level. However, correlation does not establish causation, and p-values are required to ascertain statistical significance. ENVD exhibits a moderate positive correlation with FSIZE (0.5646), while LEV shows moderate negative correlations with ENVD (-0.2448) and FSIZE (-0.5707), suggesting larger firms

disclose more environmental information and maintain lower leverage. These findings underscore the importance of controlling for these variables in subsequent multivariate analysis to isolate the net effect of ENVD on firm performance.

Variance Inflation Factor (VIF) Test

The Variance Inflation Factor (VIF) test identifies multicollinearity in regression analysis by measuring how much the variance of a regression coefficient is inflated due to the correlation between predictors. Table 4 displays the outcome of the VIF test conducted in this study.

Table 4 Results of Variance Inflation Factor (VIF) Test

<i>Variable</i>	<i>VIF</i>	<i>1/VIF</i>
<i>FSIZE</i>	2.07	0.482314
<i>LEV</i>	1.50	0.665510
<i>ENVD</i>	1.49	0.672408
<i>Mean VIF = 1.69</i>		

Source: Author's Computation (2026)

The VIF test results, presented in Table 4, confirm the absence of multicollinearity among the independent variables. The VIF values range from 1.49 to 2.07 (mean VIF = 1.69), substantially below the conventional threshold of 5 and the conservative threshold of 10 (Gujarati & Porter, 2009; Hair et al., 2019; Wooldridge, 2020). The

tolerance values (1/VIF) range from 0.4823 to 0.6724, well above the acceptable minimum of 0.10, further confirming no problematic correlations. FSIZE exhibits the highest VIF (2.07), attributable to its moderate correlation with ENVD (0.5646) and LEV (-0.5707), though this level is not severe enough to distort estimates. This

confirms that ENVD, LEV, and FSIZE measure distinct constructs and can be included simultaneously without estimation

bias, reinforcing the validity of panel regression techniques to rigorously test H_{01} and H_{02} .

Heteroskedasticity Test

Table 5 Heteroskedasticity Result Test

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROA

chi2(1) = 998.21

Prob > chi2 = 0.0000

Source: Author's Computation (2026)

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of EPS

chi2(1) = 110.15

Prob > chi2 = 0.0000

Source: Author's Computation (2026)

Both models exhibit significant heteroskedasticity ($p < 0.01$), necessitating robust standard errors. The Hausman specification test favoured Fixed Effects for ROA ($\chi^2 = 25.10$, $p < 0.01$) and Random Effects for EPS ($\chi^2 = 0.33$, $p = 0.9544$). Hausman, 1978.

Hypothesis Testing

Test of Hypothesis I

Table 6: Results of Model I and Test of Hypothesis I

Table 6 Results of Model I and Test of Hypothesis I

<i>Dependent Variable: Financial Profitability (ROA)</i>					
<i>Variable</i>	<i>Symbols</i>	<i>Coefficient</i>	<i>Robust Std. Err.</i>	<i>t-stat.</i>	<i>p-value</i>
ENVIRONMENTAL DISCLOSURE	ENVD	-.8302407	5647146	-1.47	0.160
LEVERAGE	LEV	-.1982897	.00382	-	0.000
				51.91	
FIRM SIZE	FSIZE	.0096964	.0344572	0.28	0.782
Constant	_cons	.3947446	.5370198	0.74	0.472
Prob > F:		0.0000			
F(3,159):		1060.26			
R-sq: within		0.1157			
between		0.7309			
overall		0.0028			
Number of Obs.		180			
rho		.62835024			

Source: Author's Computation (2026)

The FE panel regression results for the ROA model, estimated with firm-level clustered robust standard errors to address heteroskedasticity, show the model is highly significant ($F(3,17) = 1060.26$, $p < 0.01$). The within, between, and overall R-squared values are 0.1157, 0.7309, and 0.0028 respectively, while $\rho = 0.6284$ indicates 62.84% of variance is attributable to firm-specific effects. The coefficient for ENVD is -0.8302 (Robust SE = 0.5647, $t = -1.47$, $p = 0.160$), indicating a negative but statistically insignificant relationship with

ROA; therefore, H_{01} cannot be rejected. This aligns with prior Nigerian studies (Samuel & Akinyosoye, 2025; Ogunleye et al., 2025; Akinnola et al., 2026) and may be attributed to low disclosure levels (mean ENVD = 0.2752) or longer-term benefits not captured in the study period. LEV has a significant negative effect (-0.1983, $t = -51.91$, $p < 0.01$), consistent with the expectation that higher debt reduces profitability. FSIZE shows no significant effect (0.0097, $t = 0.28$, $p = 0.782$), aligning with prior Nigerian findings.

Test of Hypothesis II

Table 7: Results of Model II and Test of Hypothesis II

<i>Dependent Variable: Financial Profitability (EPS)</i>					
<i>Variable</i>	<i>Symbol</i>	<i>Coefficient</i>	<i>Robust Std. Err.</i>	<i>t-stat.</i>	<i>p-value</i>
ENVIRONMENTAL DISCLOSURE	ENVD	-12.73771	14.35589	-0.89	0.375
LEVERAGE	LEV	.0474165	.1586941	0.30	0.765
FIRM SIZE	FSIZE	1.428189	1.455582	0.98	0.327
Constant	_cons	-17.86281	19.36359	-0.92	0.356
Prob > chi2:		0.0171			
Wald chi2(3):		10.18			
Number of Obs.		180			

Source: Author's Computation (2026)

The Random Effects panel regression with cluster-robust standard errors examines the relationship between ENVD and EPS. The overall model is statistically significant (Wald $\chi^2 = 10.18$, $p = 0.0171$). The coefficient of ENVD is -12.7377, indicating a negative relationship with EPS, but it is not statistically significant ($z = -0.89$, $p = 0.375$; 95% CI: -40.8747 to 15.3993 includes zero), suggesting ENVD does not significantly influence EPS. Leverage (LEV) shows a positive but insignificant effect (0.0474, $z = 0.30$, $p = 0.765$), while Firm Size (FSIZE) also exhibits a positive but insignificant coefficient (1.4282, $z = 0.98$, $p = 0.327$). The ρ value of 0.8481 indicates that 84.81% of total variation in EPS is attributable to unobserved firm-specific effects, underscoring the importance of firm-specific characteristics. Decision on H_{02} : Since the p-value for ENVD (0.375) exceeds the 5% significance level, the null hypothesis cannot be rejected.

Consequently, the study concludes that environmental sustainability disclosure has a negative but statistically insignificant relationship with EPS, providing insufficient empirical evidence to conclude that ENVD significantly influences EPS during the study period.

Conclusion and Recommendations

This study examined the relationship between environmental sustainability disclosure and financial performance (ROA and EPS) of quoted consumer goods companies in Nigeria. Panel data from eighteen companies (2013-2022) were analysed using fixed effects and random effects regression with cluster-robust standard errors.

The empirical findings reveal that environmental sustainability disclosure has a negative but statistically insignificant relationship with both ROA and EPS. Consequently, the study fails to reject both

null hypotheses, indicating that environmental sustainability disclosure does not significantly influence either accounting-based or market-based financial performance during the period investigated. Leverage significantly and negatively affects ROA, while firm size shows no significant effect on either performance measure.

The findings suggest that the current level of environmental disclosure among Nigerian consumer goods companies does not translate into measurable improvements in profitability or shareholder earnings. This may indicate that stakeholders place greater emphasis on the quality and credibility of environmental initiatives than on disclosure volume, or that financial benefits materialise over longer time horizons hence the following recommendations:

- i. Corporate managers should prioritise improving the quality, credibility, and verifiability of environmental disclosures rather than merely increasing disclosure quantity.
- ii. Environmental sustainability initiatives should be integrated into long-term corporate strategy, viewing investments in environmental protection as strategic investments capable of generating long-term economic benefits.
- iii. Regulatory agencies (Financial Reporting Council of Nigeria, Nigerian Exchange Limited) should strengthen sustainability reporting requirements and promote compliance with internationally recognised frameworks.
- iv. Investors should evaluate environmental disclosure alongside other performance indicators, as disclosure alone is not a sufficient predictor of financial performance.
- v. Managers should maintain prudent debt management policies, as leverage significantly reduces ROA.
- vi. Future studies should incorporate additional sustainability dimensions (social and governance disclosures), carbon emissions, environmental expenditure, longer study periods,

alternative performance measures (Tobin's Q, market value), and dynamic panel estimators (System GMM) to address potential endogeneity.

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