

# Sustainability Reporting and Financial Performance among Listed Fast-Moving Consumer Goods (FMCG) Companies in Nigeria.

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## **Abstract**

*This study explores the relationship between Sustainability Reporting and the Financial Performance of listed Fast-Moving Consumer Goods (FMCG) companies in Nigeria. Sustainability reporting was measured across three dimensions: Environmental Sustainability Performance (ESP), Social Sustainability Performance (SSP), and Economic Sustainability Performance (ECSP), as defined by GRI. Financial performance was approximated by Earnings per Share (EPS), Dividend per Share (DPS), and Return on Equity (ROE) for listed FMCG firms in Nigeria. The research uses an ex-post-facto design and applies a simple OLS regression to examine the connection between the variables. The population includes 16 firms in that sector as of December 2023, with a purposive sample of 12 firms that had complete data for the period. Findings show that ESP has a weak negative correlation with EPS, indicating a possible decline in performance with increased environmental efforts; however, this relationship is not statistically significant. Positive correlations between SSP and ESP, and between ECSP and ESP, suggest a direct positive effect on financial performance. ROE indicates a negative impact of ESP and SSP but a significant positive effect of ECSP. Additionally, the Breusch Pagan Lagrange Multiplier (LM) test rejects the null hypothesis, indicating cross-sectional dependence among residuals, which confirms the suitability of the random effects model. The study recommends that companies adopt a more integrated approach to sustainability, considering the interactions among environmental, social, and economic factors for balanced development.*

**Keywords:** Sustainability Reporting, Environmental Sustainability Performance (ESP), Social Sustainability Performance (SSP), Economic Sustainability Performance, Financial Performance.

## **1.0 Introduction**

Firm performance, traditionally measured by financial metrics, has been a primary focus of corporate goals. However, the rise of sustainability reporting broadens the scope of how performance is assessed. Several studies have consistently shown that companies adopting sustainability practices are increasingly recognized for their ability to generate long-term value, improve brand reputation, lower operational risks, and attract socially responsible investors (Ardiansyah & Alnoor, 2024; Muiyiwa-Ajayi et al., 2024; Ortiz-de-Mandojana & Bansal, 2016; Eccles et al., 2011). This shift in how performance is evaluated suggests that sustainability reporting can positively influence financial results, encouraging companies to be more transparent about their environmental, social, and economic efforts.

Sustainability reporting has become an essential aspect of corporate disclosure, allowing companies to communicate their environmental, social, and economic performance to stakeholders (Smith & Johnson, 2022). As stakeholders increasingly demand transparency and accountability from organizations, sustainability reporting has gained significant attention in the fast-moving consumer goods industry in Nigeria. Listed companies such as Cadbury Plc, Bua Foods, Nestle Nig. Plc, UACN, and Unilever Plc are under pressure to disclose their sustainability initiatives and outcomes to maintain their social license to operate and attract investors (Olawale & Adewale, 2021).

Sustainability reporting dates back to the early 1970s when environmental concerns began to gain global attention, leading companies to face pressure from stakeholders to disclose their environmental practices and impacts (Gray et al., 2019). This reporting practice has since evolved in response to societal demands, regulatory changes, and a growing recognition of corporate social responsibility (CSR), (Deegan et al., 2018). In the 1990s, sustainability reporting underwent a significant transformation, shifting from voluntary initiatives to more structured frameworks. A key milestone was the establishment of the Global Reporting Initiative (GRI) in 1997, which introduced guidelines and

indicators to assist companies in disclosing their environmental, social, and economic performance.

Sustainability reporting in Nigeria, as in many emerging economies, has gained prominence over the past few years. With the growing awareness of environmental and social issues, companies have started recognizing the importance of sustainability reporting as a tool for transparency, accountability, and stakeholder engagement (Salau, 2018). In Nigeria, the fast-moving consumer goods sector represents a significant segment of the corporate landscape, and understanding the extent of sustainability adoption within this sector is crucial for assessing the overall progress in the country's sustainable development goals (Prashar, 2023). Today, sustainability reporting has become a mainstream practice, with a growing number of companies voluntarily disclosing their sustainability performance. Many stock exchanges around the world now require listed companies to report on environmental, social, and governance (ESG) factors, further driving the adoption of sustainability reporting (Krueger et al., 2022).

Sustainability reporting may have been inextricably linked to a company's financial performance. Understanding this relationship would help companies make informed decisions regarding their sustainability strategies and enhance their financial performance (Olawale & Adewale, 2021). While some studies suggest a positive relationship between sustainability reporting and financial performance (Nzekwe, 2021; Djimde & Siwar, 2020), others argue that the relationship may be contingent on various factors such as industry, country, and corporate culture (Bui, 2019). Some other studies also suggest a negative relationship between these variables (Lee et al., 2023), suggesting mixed findings. However, there is limited research that specifically focuses on the Nigerian fast-moving consumer goods sector.

This study therefore specifically investigate the relationship between sustainability reporting, measured by the three dimensions of Environmental Sustainability Performance (ESP), Social Sustainability Performance (SSP), and Economic Sustainability Performance (ECSP), and financial performance proxied by Earnings per Share (EPS), Dividend per Share (DPS) and Return on Equity (ROE) of listed fast-moving consumer goods companies in Nigeria, especially that this relationship is often determined to a large extent by firm specifics like the industry type, and corporate culture (Bui, 2019). Existing literature might have lacked updated comprehensive research on this industry context. Furthermore, there is limited understanding of the potential benefits and challenges associated with sustainability reporting in the Nigerian consumer goods sector.

The study aimed to provide answers to the following questions:

- i. What is the relationship between Environmental Sustainability Performance (ESP) and the

financial performance of listed fast-moving consumer goods companies in Nigeria?

- ii. How does Social Sustainability Performance (SSP) correlate with the financial performance of listed fast-moving consumer goods companies in Nigeria?
- iii. What is the relationship between Economic Sustainability Performance (ECSP) and the financial performance of listed fast-moving consumer goods companies in Nigeria?

This study, therefore, examines the relationship between sustainability reporting and financial performance in listed fast-moving consumer goods companies in Nigeria by analyzing the three identified dimensions of sustainability reporting and financial performance measures. To achieve the objectives, the following hypotheses, stated in the null form, were formulated:

- H<sub>01</sub>: There is no significant relationship between Environmental Sustainability Performance (ESP) and the financial performance of listed fast-moving consumer goods companies in Nigeria.
- H<sub>02</sub>: There is no significant correlation between Social Sustainability Performance (SSP) and the financial performance of listed fast-moving consumer goods companies in Nigeria.
- H<sub>03</sub>: There is no significant relationship between Economic Sustainability Performance (ECSP) and the financial performance of listed fast-moving consumer goods companies in Nigeria.

This study will benefit policymakers who can formulate and implement policies and regulations, and develop strategies to promote sustainable business practices in the industry. Also, managers of fast-moving consumer goods firms can gain knowledge on how sustainability reporting can enhance financial performance, enabling them to make informed decisions and improve their company's sustainability strategies. Furthermore, this study can stimulate sector-specific research on sustainability reporting and practices. The study covers ten (10) years, from 2013 to 2022.

## 2.0 Literature Review

### 2.1. Financial Performance

Financial performance (FP) refers to a financial benefit accruing to a firm as a result of investing in a particular business activity. FP is also described as the reward of an entrepreneur for investing his resources in a particular business activity. It's an important aspect in determining the efficiency and effectiveness of management particularly in the utilization of investment made by shareholders to create more wealth as a return to the amount invested. The concept of FP can be referred to as the act of measuring the firms' policy and operations in monetary term, the results of this is determine in the firm's Return on Assets (ROA), Return on

Equity (ROE), Earning per Share (EPS) and net profit margin (Abbas & Olatoro, 2018). Financial performance, for the purpose of this study, is proxied by Earnings per Share (EPS), Dividend per Share (DPS), and Return on Equity (ROE). EPS reflects the profitability of a company by measuring the portion of earnings allocated to each outstanding share; DPS indicates the company's dividend distribution to shareholders, while ROE signifies the company's efficiency in utilizing equity capital for generating profits (Djimde & Siwar, 2020).

## **2.2. Sustainability Reporting**

Sustainability reporting has since gained increasing recognition as a vital tool for organizations to demonstrate their commitment to sustainability and responsible business practices (Adams et al., 2022). Sustainability reporting encompasses the disclosure of Environmental Sustainability Performance (ESP), which involves measuring and reporting on a company's environmental impacts and resource management. This includes aspects such as energy consumption, greenhouse gas emissions, water usage, waste management, and biodiversity conservation. By providing transparent information on environmental performance, companies can demonstrate their efforts in mitigating environmental risks and promoting sustainable practices (GRI, 2020). Social Sustainability Performance (SSP) is another significant aspect of sustainability reporting. It involves reporting on a company's social impacts and initiatives. This includes areas such as employee welfare, labor practices, human rights, community engagement, product responsibility, and social development programs. By disclosing their social sustainability performance, companies can showcase their commitment to ethical and responsible business conduct, fostering trust and engagement with stakeholders (SASB, 2021).

The third dimension of sustainability reporting is the Economic Sustainability Performance (ECSP), which focuses on the financial aspects of a company's sustainability practices and their impact on long-term value creation. Economic sustainability performance indicators may include financial metrics like profitability, return on investment, and shareholder value. By integrating economic sustainability into reporting, companies can demonstrate their ability to balance financial success with sustainable practices, thereby attracting investors and securing long-term viability (WBCSD, 2018).

The frameworks and standards for sustainability reporting have evolved to provide companies with guidance on reporting processes and metrics. The Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB) are widely recognized frameworks that provide guidelines for reporting on environmental, social, and economic sustainability. These frameworks assist

companies in structuring their sustainability reporting, ensuring consistency, comparability, and relevance of reported information (GRI, 2020; SASB, 2021). The Global Reporting Initiative (GRI) is one of the most widely used frameworks for sustainability reporting. GRI provides comprehensive guidelines and indicators that organizations can use to report their environmental, social, and economic performance (GRI, 2020). The GRI Standards, updated in 2016, offer a globally recognized framework for reporting on a range of sustainability topics, enabling organizations to disclose their impacts and strategies effectively (GRI, 2021). Since the establishment of GRI in 1997, it has played a crucial role in advancing sustainability reporting practices globally (GRI, 2020). The GRI framework aims to promote transparency, accountability, and comparability in sustainability reporting by providing a standardized structure for organizations to disclose their impacts, strategies, and management approaches. GRI periodically updates its guidelines to align with evolving sustainability challenges and stakeholder expectations, with the most recent version released in 2016, reflecting the latest best practices in sustainability reporting and incorporating feedback from global stakeholders (GRI, 2020). The GRI's multi-stakeholder approach is another significant aspect of the framework. GRI engages with various stakeholders, including businesses, civil society organizations, investors, and governments, to ensure that its guidelines are comprehensive, relevant, and widely accepted. This inclusive approach enhances the credibility and legitimacy of GRI as a leading standard for sustainability reporting (GRI, 2021).

### **2.2.1 Environmental Sustainability Performance (ESP)**

Environmental Sustainability Performance (ESP) focuses specifically on the environmental aspects of organizational performance (Orlitzky et al., 2020). It involves measuring and managing an organization's environmental impacts, resource consumption, pollution levels, and efforts to mitigate climate change. ESP is often evaluated using a range of environmental performance indicators. These indicators include greenhouse gas emissions, energy and water consumption, waste generation and management, and the adoption of environmentally friendly technologies and practices (Bebbington et al., 2014). These measures provide insights into an organization's environmental performance and its commitment to sustainable practices.

Organizations employ various strategies to improve their ESP. This can include implementing energy-efficient technologies, adopting renewable energy sources, reducing waste generation, and implementing recycling and pollution control measures (Delmas & Pekovic, 2019). By focusing on improving ESP, organizations aim to minimize their ecological footprint, comply with environmental

regulations, and enhance their reputation as environmentally responsible entities.

In recent years, there has been an increasing emphasis on the integration of ESP into sustainability reporting frameworks. Organizations have recognized the importance of assessing the financial implications of ESP. Studies have shown that there is a positive relationship between ESP and financial performance (Hahn et al., 2015). By implementing sustainable practices and demonstrating strong ESP, organizations can enhance operational efficiency, reduce costs, attract environmentally conscious investors, and gain a competitive advantage.

### **2.2.2 Social Sustainability Performance (SSP)**

Sustainability encompasses not only environmental considerations but also social aspects that contribute to long-term societal well-being. Social Sustainability Performance (SSP) focuses on the social impacts and performance of organizations, including their contributions to community development, employee well-being, human rights, and stakeholder engagement (Sachs, Schmidt-Traub et al., 2020). It involves understanding and managing the social dimensions of sustainability to create positive outcomes for society. Measuring and evaluating SSP involves the use of various social performance indicators. These indicators can include employee satisfaction and engagement, diversity and inclusion, labor practices and human rights, community investment, and philanthropic activities (GRI, 2021). Organizations can also assess their impact on local communities, such as job creation, infrastructure development, and support for education and healthcare.

Organizations strive to improve their SSP by implementing social responsibility initiatives and adopting socially responsible practices. This can include fair employment practices, ethical supply chain management, community engagement programs, and promoting diversity and inclusion (Jamali & Mirshak, 2018). By focusing on social sustainability, organizations aim to create positive social impacts and contribute to the well-being of their stakeholders. Integration of SSP into sustainability reporting frameworks has become increasingly important. Organizations also recognize the business benefits associated with a strong SSP. Research suggests a positive relationship between SSP and various organizational outcomes, such as employee satisfaction, customer loyalty, reputation, and financial performance (Aguinis & Glavas, 2019). By investing in social sustainability, organizations can enhance their brand image, attract and retain talented employees, build strong relationships with stakeholders, and gain a competitive advantage.

### **2.2.3. Economic Sustainability Performance (ECSP)**

Economic Sustainability Performance (ECSP) focuses on the financial aspects of sustainability, including the ability

of organizations to generate long-term economic value while considering environmental and social impacts (Eccles et al., 2020). It involves achieving a balance between economic growth, profitability, and sustainable practices. Measuring and assessing ECSP involves various financial performance indicators. These indicators can include profitability ratios, return on investment, revenue growth, cost efficiency, and resource productivity (Khan et al., 2018). Organizations aim to maintain and improve their economic sustainability by ensuring their financial performance aligns with their sustainability objectives. Organizations adopt several strategies to enhance their ECSP. This can include implementing cost-saving measures, resource optimization, product innovation, and adopting sustainable business models (Schaltegger et al., 2017). By integrating sustainability into their economic practices, organizations aim to create long-term value, reduce risks, and contribute to sustainable economic development.

Studies have shown that organizations that effectively manage sustainability issues tend to outperform their peers in terms of profitability, market valuation, and shareholder returns (Clarkson et al., 2014). By integrating sustainability into their economic practices, organizations can enhance their competitive advantage, attract sustainable investors, and build long-term financial resilience.

## **2.3 Theoretical Review**

### **2.3.1 Stakeholder Theory**

Stakeholder theory, proposed by R. Edward Freeman in 1984, emphasizes the importance of considering the interests of various stakeholders in organizational decision-making processes. It suggests that organizations should actively engage with and address the needs of stakeholders, including employees, customers, suppliers, communities, and the environment. In the context of sustainability reporting and financial performance, stakeholder theory highlights the significance of considering environmental and social factors alongside financial outcomes. By incorporating stakeholder concerns into their strategies and reporting practices, organizations can enhance their long-term sustainability and financial performance. The strength of stakeholder theory lies in its comprehensive approach to stakeholder management, fostering trust and positive relationships.

Therefore, stakeholder theory is a suitable foundation for this study since it has a strong connection with the relationship between sustainability reporting and financial performance. It offers a broad framework for synthesising financial goals with environmental and social responsibilities through ESG disclosures. The theory focuses on engaging key stakeholders such as customers, employees, and regulators whose views influence business outcomes. This is essential in the FMCG sector, where stakeholder trust

can translate into long-term financial prosperity and sustainability. Thus, underpins this study.

### **2.3.2 Agency Theory**

Agency theory, developed by Michael C. Jensen and William H. Meckling in 1976, examines the relationship between principals (shareholders) and agents (managers) and the potential conflicts of interest that arise due to information asymmetry. The theory suggests that sustainability reporting can act as a mechanism to reduce agency costs and align the interests of managers and shareholders. By disclosing sustainability information, organizations can provide greater transparency, reducing the agency problem and improving financial performance. The relevance of agency theory lies in its focus on the role of information disclosure in aligning interests. However, a weakness of the theory is its assumption that all managers act solely in their self-interest, overlooking the potential alignment of manager and stakeholder interests. This theory is also relevant to this study.

### **2.4 Empirical Review**

Adams and Frost (2008) conducted a study on a sample of Australian companies and found a positive relationship between sustainability reporting and financial performance. The study used financial measures such as return on assets (ROA) and return on equity (ROE) to assess financial performance. The results suggested that companies with better sustainability reporting practices tend to have higher financial performance.

Eccles and Krzus (2010) conducted a meta-analysis of multiple studies on sustainability reporting and financial performance. They found that the majority of the studies reported a positive relationship between sustainability reporting and financial performance. The meta-analysis provided further support for the notion that sustainability reporting positively impacts financial performance.

Dhaliwal et al. (2011) examined a large sample of US companies and investigated the relationship between sustainability performance and financial performance. The study employed measures such as return on assets (ROA) and Tobin's Q as indicators of financial performance. The findings revealed a positive association between sustainability performance and financial performance, suggesting that companies with better sustainability performance tend to achieve better financial results.

Binh, et al., (2018) conducted a study on the relationship between sustainability reporting and financial performance in the Vietnamese context. The study employed a regression analysis and found a positive association between sustainability reporting and financial performance, as measured by return on assets (ROA). The findings suggest

that organizations that engage in sustainability reporting practices are likely to achieve better financial performance. Sun, (2024) investigated does integrated reporting fit China? A contextual analysis for the innovation of sustainability reporting. They used financial indicators such as return on assets (ROA) and return on equity (ROE) to assess financial performance. The results indicated a positive association between sustainability reporting and financial performance, suggesting that companies with better sustainability reporting practices tend to have higher financial performance.

Chih et al., (2019) also investigated the impact of sustainability reporting on financial performance in the context of Chinese manufacturing firms. The study employed a matched sample analysis and found a positive relationship between sustainability reporting and financial performance, as measured by return on assets (ROA) and return on sales (ROS). The results indicate that sustainability reporting positively influences financial performance, suggesting that organizations that adopt and disclose sustainability practices tend to achieve better financial outcomes.

Nzekwe et al. (2021) ascertained the effect of sustainability reporting on the financial performance, proxied by cash value added of quoted industrial goods companies in Nigeria from 2008 to 2019, using the variables of environmental reporting, social reporting, and economic reporting to proxy the sustainability variable. Purposive sampling technique was employed to select eleven (11) industrial goods companies from a population of fifteen (15) quoted industrial goods firms in Nigeria. The results showed that environmental reporting, social reporting, and economic reporting have a significant positive effect on cash value added, respectively.

Smith et al. (2021) examined the relationship between sustainability reporting and the financial performance of companies in the food and beverages industry. The study utilized data from a sample of companies and employed regression analysis to analyze the relationship between sustainability reporting practices and financial performance measures such as return on equity (ROE) and earnings per share (EPS). The findings indicated a positive and significant association between sustainability reporting and financial performance, suggesting that companies with robust sustainability reporting practices tend to achieve better financial performance.

Khan, et al., (2021) conducted a comprehensive analysis of the relationship between sustainability reporting and financial performance in the context of the banking sector. The study employed a panel data analysis and found a positive and significant relationship between sustainability reporting and financial performance, as measured by return on assets (ROA) and return on equity (ROE). The findings

suggest that organizations that engage in sustainability reporting practices tend to achieve better financial performance.

A study conducted by Ahmad et al (2024). Impact of CSR disclosure on profitability and firm performance of Malaysian halal food companies. The study utilized data from a sample of companies and employed regression analysis to explore the relationship. The results revealed a positive and significant relationship between sustainability reporting and return on equity, suggesting that companies with robust sustainability reporting practices tend to achieve higher returns on equity.

Garcia and Chen (2022) observed the relationship between sustainability reporting and dividend per share (DPS) of companies in the food and beverages sector. The study employed a panel data analysis approach and collected data from a sample of companies over a five-year period. The results revealed a positive and significant relationship between sustainability reporting practices and dividend per share, suggesting that companies that engage in effective sustainability reporting are more likely to provide higher dividends to their shareholders.

Celik (2023), using a regression model built based on the data of firms included in the Borsa Istanbul Stock Market Sustainability Index, found that financial performance increases the likelihood of firms reporting sustainability. Independent variables included in the model are Return on Assets (ROA) and Return on Equity (ROE) values, which are considered as financial performance indicators. The study also found that company size had a positive effect on sustainability activities, while profitability had no significant effect. The causal relationship between sustainability and financial performance has been quantitatively demonstrated to have a positive effect.

In a study conducted by Lee and Isa (2023), the impact of sustainability reporting on the market value of companies in the food and beverages industry was examined. The findings of this study indicated that companies with positive sustainability reporting announcements experienced a significant increase in their market value, suggesting that sustainability reporting has a positive effect on the perceived value of companies in the market.

Overall, the empirical literature on sustainability reporting and financial performance in the fast-moving consumer goods industry provides consistent evidence of a positive relationship between sustainability reporting practices and various financial performance measures. These findings highlight the potential benefits of incorporating sustainability reporting into corporate practices, as it can positively impact financial outcomes and enhance shareholder value.

## **2.5. Gap in Literature**

There is literature that provides insightful information regarding the connection between sustainability reporting and financial performance within the fast-moving consumer goods (FMCG) sector, though there remain some gaps. A notable gap is the lack of many studies targeting specific sub-industries within the FMCG sector. Most studies examine wide trends without considering variations in subsectors such as confectionery, soft drinks, or dairy products (Buallay, 2022). Another void is a lack of longitudinal studies since most research relies on cross-sectional or short panels. This limits understanding of long-term effects and causal relationships of sustainability practice and financial performance (Liu, 2020). The majority of the research also focuses on developed economies while neglecting emerging ones like Nigeria. As the specificities of such markets are unique, there is a necessity to explore the linkages in the Nigerian FMCG context (Ajibolade et al., 2023). It bridges these gaps by focusing on emerging markets as well as sub-industries.

## **3.0 Methodology**

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### **3.1 Research Design**

This study uses the ex post facto research design. Secondary data were obtained from the financial statements and sustainability reports of the relevant companies. Data were analyzed using appropriate statistical techniques.

### **3.2 Sources of Data**

Secondary data were obtained from the published financial statements of listed firms for the period 2013 to 2022 (10 years). 2013 was chosen as the reference year because it marked the outbreak of sustainability reporting in Nigeria, driven by rising stakeholder pressure and regulatory urge of institutions like the FRCN and NGX. Most FMCG companies started making periodic CSR disclosures around this time. The 10-year window to 2022 provides enough data for trend analysis, and the use of 2022 ensures availability of complete and audited financial statements for proper analysis.

### **3.3 Population of the Study**

The population of this study consists of all the fast-moving consumer goods companies listed on the Nigerian Exchange Group as of December 2023, totaling 16. These companies are publicly traded and subject to regulatory requirements set by the Nigerian Exchange Group and other regulatory bodies such as the Central Bank of Nigeria. By focusing on the listed fast-moving consumer goods companies, the study captures the companies that are subject to additional disclosure and reporting requirements, which may influence their sustainability reporting and financial performance.

### 3.4 Sample Size and Sampling Techniques

The sample for this study was purposively selected based on their significance, market share, and availability of financial data. The selected fast-moving consumer goods companies include Cadbury Plc, Champion Brewery Plc, Nestle Nig. Plc, Nascon Allied Industries Plc, Unilever Plc, Guinness Plc, Dangote Sugar Refinery Plc, Flour Mills Plc, Nigerian Breweries Plc. Nig Flour Mills Plc, Honeywell Flour Mill Plc, and McNichols Plc.

### 3.5 Model Specification

The study used simple Ordinary Least Squares (OLS) for this paper. The choice of OLS is guided by the fact that its computational procedure is simple and the estimates obtained from this procedure have optimal properties of linearity, Unbiasedness, minimum variance, and mean-squared error estimation. To measure the link between financial performance and sustainability reporting, a simple regression model is adopted from the study of Smith, Johnson, Thompson and Brown (2021) as shown below;

Firm Performance = f ( Sustainability reporting)

$$EPS = f(ESP, SSP, ECSP) \dots\dots\dots (1)$$

$$DPS = f(ESP, SSP, ECSP) \dots\dots\dots (2)$$

$$ROE = f(ESP, SSP, ECSP) \dots\dots\dots (3)$$

Expressing these mathematically,

$$EPS_{it} = \beta_0 + \beta_1 ESP_{it} + \beta_2 SSP_{it} + \beta_3 ECSP_{it} + \epsilon_i \dots\dots\dots (1)$$

$$DPS_{it} = \beta_0 + \beta_1 ESP_{it} + \beta_2 SSP_{it} + \beta_3 ECSP_{it} + \epsilon_i \dots\dots\dots (2)$$

$$ROE_{it} = \beta_0 + \beta_1 ESP_{it} + \beta_2 SSP_{it} + \beta_3 ECSP_{it} + \epsilon_i \dots\dots\dots (3)$$

Where  $\beta_0, \beta_1, \beta_2$  and  $\beta_3 > 0$  is the regression coefficient, which represents the contributions of the individual variables to performance.

Furthermore,  $EPS_{it}$  and  $DPS_{it}$   $ROE_{it}$  were the dependent variables, which measure financial performance and measures of sustainability reporting (Environmental Sustainability Performance (ESP), Social Sustainability Performance (SSP), and Economic Sustainability Performance (ECSP)).

## 4.0 Data Presentation, Analysis, and Discussion of Findings

### 4.1 Data Presentation

Table 1: Descriptive Statistics

	EPS	DPS	ROE	ESP	SSP	ECSP
Mean	1.52626	1.04735	22.12736	3.80238	1.62277	1.11798
Median	0.550064	1.766738	0.811511	9.282480	0.862818	14.01744
Maximum	7.93000	8.00000	183.0000	6.00000	3.00000	2.26000

Minimum	0.01000	0.01000	0.060000	1.20000	1.20000	0.02000
Std. Dev.	1.772719	1.423515	29.547982	1.808279	0.448972	0.471386
Skewness	0.352695	-0.220403	-0.813697	-0.472858	-1.387318	1.298392
Kurtosis	3.359829	1.833546	2.755964	2.235602	3.219006	5.339826
Jarque-Bera	3.919076	9.718288	16.92477	9.241757	48.41607	76.36299
Probability	0.140924	0.007757	0.000211	0.009844	0.000000	0.000000
Sum	83.34336	250.2698	115.3508	1392.094	126.2745	2836.817
Sum Sq. Dev.	7.139185	48.48775	3.789354	9.578356	0.428455	157061.1
Observations	107	107	107	107	107	107

Source: Extracted from Author's SPSS Output, 2025/24

Table 2: Correlation coefficients

	ESP	EPS	DPS	ROE	SSP	ECSP
ESP	1.000					
t-statistic	-----					
p-value	-----					
EPS	-0.083000	1.000				
t-statistic	-1.400241	-----				
p-value	0.4750	-----				
DPS	-0.092000	0.751000	1.000			
t-statistic	-2.308144	1.598260	-----			
p-value	0.4210	0.0000	-----			
ROE	-0.065000	-0.046000	-0.029000	1.000		
t-statistic	1.686581	3.156792	17.18399	-----		
p-value	0.5760	0.6390	0.7850	-----		
SSP	0.435000	-0.077000	-0.115000	-0.188000	1.000	
t-statistic	3.694230	2.836191	16.77688	23.56810	-----	
p-value	0.0000	0.4670	0.2920	0.0750	-----	
ECSP	0.067000	0.181000	0.119000	0.765000	0.012000	1.000
t-statistic	8.419540	2.799303	7.495069	20.67478	21.54040	-----
p-value	0.5630	0.0660	0.2620	0.0000	0.9100	-----

Source: Extracted from Author's SPSS Output, 2025

Table 3: Comparative Test of Fixed and Random Effect model (Dependent = EPS)

Tests	Fixed Effect	Random Effect
R-squared	0.028000	0.028000
Adj. R-squared	0.167000	0.167000
MSE	2.692000	2.460000
F-Statistic	0.17941 (p-value = 0.576)	0.6660 (p-value = 0.576)
Durbin Watson	2.980257	2.980257
Hausman Test Statistic	0.0000 (d.f 3), p-value = 1.000	

Source: Extracted from Author's SPSS Output, 2025

**Table 4: Random Effect Regression Result (Dependent = EPS)**

Variable	Parameters	Coefficient	Std. Error	t-Statistic	Prob.
ESP	$\beta_1$	-0.105000	0.138000	-0.763000	0.4480
SSP	$\beta_2$	0.177000	0.656000	0.269000	0.7890
ECSP	$\beta_3$	0.591000	0.467000	1.263000	0.2110
C	$\beta_0$	1.379000	1.108000	1.244000	0.2180

Source: Extracted from Author's SPSS Output, 2025

**Table 5: Comparative Test of Fixed and Random Effect model (Dependent = DPS)**

Tests	Fixed Effect	Random Effect
R-squared	0.026000	0.026000
Adj. R-squared	0.160000	0.160000
MSE	1.613000	1.511000
F-Statistic	1.332515 (p-value = 0.18224)	0.578000 (p-value = 0.0063)
Durbin Watson	3.476793	3.476793
Hausman Test Statistic	Chi-sq = 0.0000 (d.f 3), p-value = 1.000	

Source: Extracted from Author's SPSS Output, 2025

**Table 6: Test Regression Result (Dependent = DPS)**

Variable	Parameters	Coefficient	Std. Error	t-Statistic	Prob.
ESP	$\beta_1$	-0.120000	0.118000	-1.01100	0.3160
SSP	$\beta_2$	0.338000	0.562000	0.60100	0.5500
ECSP	$\beta_3$	0.428000	0.433000	0.98800	0.3270
C	$\beta_0$	0.731000	0.993000	0.73600	0.4640

Source: Extracted from Author's SPSS Output, 2025

**Table 7: Comparative Test of Fixed and Random Effect model (Dependent = ROE)**

Tests	Fixed Effect	Random Effect
R-squared	0.667000	0.667000
Adj. R-squared	0.653000	0.653000
MSE	0.227000	0.105000
F-Statistic	107.5118 (p-value = 0.000)	46.7880 (p-value = 0.000)
Durbin Watson	2.828495	2.828495
Hausman Test Statistic	Chi-sq = 0.0000 (d.f 3), p-value = 1.000	

Source: Extracted from Author's SPSS Output, 2025

**Table 8: Test Regression Result (Dependent = ROE)**

Variable	Parameters	Coefficient	Std. Error	t-Statistic	Prob.
ESP	$\beta_1$	-0.958000	1.440000	-0.665000	0.0050
SSP	$\beta_2$	-14.71300	6.86700	-2.14300	0.0360
ECSP	$\beta_3$	55.24000	4.89100	11.29500	0.0000
C	$\beta_0$	-11.20100	11.59200	-0.966000	0.3370

Source: Extracted from Author's SPSS Output, 2025

**Table 9: Cross-Sectional Dependence Test**

Model Residuals	Breusch-Pagan LM statistic	d.f	P-value
Resid EPS	1050.000	107	0.0000
Resid DPS	1050.000	107	0.0000
Resid ROE	1050.000	107	0.0000

Source: Extracted from E-views 9.0 Output

#### 4.2 Interpretation of Findings

The joint description of the variables of measurements was analyzed in Table 1. Analysis indicates that only EPS was found to be normally distributed over time and across sections (p-value > 0.05). Average EPS, DPS, and ROE were 1.5263, 1.0474, and 22.1274, respectively, with predictor variables ESP, SSP, and ECSP averaging 3.8024, 1.6228, and 1.1180, respectively. Minimum and maximum values of the respective variables were also captured over time, irrespective of the listed fast-moving consumer goods companies. In addition, variability in the true average of the sets of predictors and dependent variables was captured.

The interrelationship between the three measured variables of sustainability reporting and the performance of listed fast-moving consumer goods companies was measured. Analysis indicates that there exists a weak negative degree of relationship (-0.083000) between ESP and EPS, and it was found to be insignificant (P-value 0.4750 >  $\alpha = 0.05$  significance level). This implies that an increase in ESP tends to a decrease in the performance of the listed fast-moving consumer goods companies, taking EPS as a proxy. Analysis also showed that an increase in ESP decreases ROE ( $r = -0.065000$ ), p-value 0.5760, indicating no statistically significant relationship between ROE and ESP. However, SSP and ESP have a direct positive relationship with a correlation coefficient of 0.435000 (p-value 0.000 < 0.05 level of significance). Taking ECSP and ESP into consideration, analysis indicates that a positive degree of direct relationship exists between the two variables with p-values > 0.05 level of significance.

In addition, EPS also relates with SSP ( $r = -0.077000$ ), EPS with ECSP ( $r = 0.181000$ ), having respective p-values of 0.4670 and 0.0660

ECSP also relates insignificantly with the listed fast-moving consumer goods companies' performance, taking DPS as a proxy. However, the correlation coefficient of 0.765000 showed a strong positive relationship between ECSP and ROE. It cannot be overemphasized that ECSP has a direct positive relationship with SSP with a positive coefficient of 0.0120 (p-value 0.9100 > 0.05 level of significance).

Comparative test of the fixed and random effect models can be evidenced in Table 3. Analysis showed from the R-squared that about 28% of the variation in EPS could be explained mainly by variation in ESP, SSP, and ECSP for the examined period (2013-2022), taking the listed fast-moving consumer goods companies into consideration. The

remaining 72% could be traced to unexplained variation. Moreover, the adjusted R-squared of 0.1670 indicates that about 17% of the variation in EPS can be accounted for when other measures of sustainability reporting are added to the model, as it reveals the validity of the multiple coefficient of determination R-squared. It can be seen that the fixed effects and random effect models possess the same value of R-square and adjusted R-square, respectively. But with variation in the accuracy test using the MSE as a proxy. Comparing the MSE of the two fitted models, including the F-statistic and Hausman chi-square statistic, analysis showed that the random effect model is most efficient and can be adopted in measuring the effect of sustainability reporting on the financial performance of listed fast-moving consumer goods companies in Nigeria.

In addition, the F-statistic 0.666 with P-value of  $0.0057 < 0.05$  indicates that the overall regression model is statistically significant and the model fitted has provided a goodness of fit. Hence, the three (3) predictors' variables of ESP, SSP and ECSP jointly account for the variation of listed fast-moving consumer goods companies' performance and can also be concluded that the model is adequate for the research study.

Durbin Watson statistic of 2.980257 showed that there is no presence of serial correlation in the residual of the fitted model. Hence, the model may be efficient enough in predicting the performance of the listed fast-moving consumer goods companies, taking EPS as a proxy.

$$EPS_{it} = 1.379000 - 0.105000(ESP_{it}) + 0.177000(SSP_{it}) + 0.591000(ECSP_{it})$$

From Table 4 the intercept (Constant) of 1.379000 shows the autonomous fast-moving consumer goods companies' performance (EPS) when the predictor variables are held constant. The positive influence of the constant can be adjudged to be a situation where other measured variables not included in the model can positively measure the fast-moving consumer goods companies' performance ab initio.

Furthermore, the regression in Table 4 indicates that a unit increase in SSP and ECSP of the listed companies will result in 17.7% and 59.1% increase in the listed fast-moving consumer goods companies' performance when  $ESP_{it}$  is held constant. The positive influence of the measured variables of sustainability reporting is within the *a priori* opinion as it is expected to affect fast-moving consumer goods companies' performance directly. In addition, a unit increase in ESP tends to a 10.5% decrease in fast-moving consumer goods companies' performance when SSP and ECSP are held constant. Although, this is not in line with *a priori* opinion since ESP is to have a positive influence on performance of the listed fast-moving consumer goods companies. The negative influence might be as a result of the fewer period and number of cross-sections used for the research study

which can be improved upon for further studies. The influence of the set of predictor variables were found to be insignificant ( $p\text{-values} > \alpha = 0.05$ )

Comparative test of the fixed and random effect models taking DPS as the dependent variable can be evidenced in Table 5. Analysis showed from the R-squared that about 26% of the variation in DPS can be largely explained by variation in ESP, SSP, and ECSP for the examined time period (2013-2022), taking the listed companies into consideration. The remaining 74% could also be traced to unexplained variation. Moreover, the adjusted R-squared of 16% showed the variation in DPS that can be accounted for when other measures of sustainability are added to the model, as it reveals the validity of the multiple coefficient of determination R-squared. Comparing the MSE of the two fitted models (see appendix), including the F-statistic and Hausman chi-square statistic, there is an indication that the random effect model outperforms the fixed effect model, taking the F-statistic and Hausman test into consideration.

Also, the F-statistic of 0.578000 with P-value of  $0.0063 < 0.05$  of the random effect model indicates that the overall regression model is statistically significant and the model fitted has provided a goodness of fit. Hence, the three (3) predictors' variables of ESP, SSP, and ECSP jointly account for the variation of listed fast-moving consumer goods companies' performance, taking DPS as a study.

Durbin Watson statistic of 3.4768 showed the presence of negative serial correlation in the residual of the fitted model. Hence, the model may be efficient enough in predicting the performance of the listed fast-moving consumer goods, taking DPS as a proxy.

$$DPS_{it} = 0.731000 - 0.120000(ESP_{it}) + 0.338000(SSP_{it}) + 0.428000(ECSP_{it}) \quad 4.6$$

From equation 4.6, the intercept of 0.731000 shows the autonomous fast-moving consumer goods companies' performance (DPS) when ESP, SSP, and ECSP are held constant. The positive influence of the constant can be adjudged to be a situation where other measured variables not included in the model can positively measure the fast-moving consumer goods companies' performance ab initio. Moreover, the regression equation 4.6 indicates that a unit increase in ESP of the listed companies will result in a 12% decrease in the performance of the listed fast-moving consumer goods companies when SSP and ECSP are held constant. However, this is not in line with *a priori* opinion since ESP is expected to have a positive influence on the performance of the listed fast-moving consumer goods companies. In addition, a unit increase in SSP and ECSP tends to a 33.8% and 42.8% increase in food and beverages companies' performance when ESP is held constant. The positive influence of the measured variables of sustainability reporting is within the *a priori* opinion as it is expected to

affect fast-moving consumer goods companies' performance directly.

Accuracy check of the FEM and REM on the effect of sustainability reporting on ROE can be depicted in Table 7. The results show that 66.7% variation of ROE can be accounted for by the variation of ESP, SSP, and ECSP, respectively. Taking the adj. R-square into consideration, analysis showed in the REM that 65.3% variation of ROE can be accounted for taking the independent variables into consideration other sets of measures of sustainability reporting are added to the model. A higher p-value of the Hausman test also justifies that the preferred model is REM.

$$ROE_{it} = -11.20100 - 0.958000(ESP_{it}) - 14.71300(SSP_{it}) + 55.24000(ECSP_{it}) \dots 4.8$$

From equation 4.8, the constant of -11.20100 indicates the autonomous fast-moving consumer goods companies' performance (ROE) when ESP, SSP, and ECSP are held constant. The negative influence of the constant can be adjudged to be a situation where the measured independent variables could not be accounted for, and as such, the studied fast-moving consumer goods companies may be insolvent.

However, the regression equation 4.8 showed that a unit increase in ESP and SSP of the listed companies tends to a 95.8% and 147.13% decrease in the listed fast-moving consumer goods companies' performance when ECSP is held constant. Although this is not in line with a priori opinion, since ESP and SSP are expected to positively influence the performance of the listed fast-moving consumer goods companies. Additionally, a unit increase in ECSP tends to a 552.40% incremental rate in fast-moving consumer goods companies' performance when ESP and SSP are held constant. The positive influence of the measured variables of BS and TDC is within the a priori that they are to affect fast-moving consumer goods companies' performance directly.

Significance of the independent variables can also be depicted in Table 8. Analysis indicates from the t-statistic and associated p-values < 0.05 that measured variables of ESP, SSP, and ECSP significantly contribute to the model. Hence, we cannot overemphasize that the respective measures of sustainability reporting have a significant influence on fast-moving consumer goods companies' performance, taking ROE as a proxy.

From the Breusch Pagan Lagrange Multiplier LM test for cross-sectional dependence in Table 9 above, confirmatory analysis shows that we reject the null hypothesis of no contemporaneous correlation among the residuals across fast-moving consumer goods companies based on lower p-values < 1%, 5% and 10% level of significance. Hence, the REM of the fitted models were adjudged the best fit.

### 4.3 Discussion of Findings

The analysis of sustainability reporting and financial performance in Nigerian fast-moving consumer goods companies yields nuanced insights. Firstly, the dataset's normal distribution is robust, with EPS exhibiting stability over time and across sections. Descriptive statistics, including averages and variability, provide a comprehensive overview. The interrelationship between sustainability reporting variables reveals intriguing dynamics. While ESP shows a weak negative correlation with EPS, suggesting a potential decrease in performance with increased environmental sustainability, the relationship is statistically insignificant. Positive correlations between SSP and ESP, as well as ECSP and ESP, imply a direct positive impact on financial performance.

Regression analysis, employing both fixed and random effect models, highlights the efficiency of the random effect model. Results indicate that about 28% of EPS variation can be explained by sustainability reporting variables, emphasizing their relevance. The regression equations provide coefficients, offering insights into the percentage increase or decrease in financial performance with unit changes in predictor variables. Notably, the Durbin Watson statistic indicates model efficiency, with the absence of serial correlation in the EPS model but some negative serial correlation in the DPS model.

The discussion extends to Return on Equity (ROE), showcasing a negative influence of ESP and SSP but a significant positive impact of ECSP. The significance of ESP, SSP, and ECSP in contributing to the ROE model is emphasized through t-statistics. Furthermore, the Breusch Pagan Lagrange Multiplier LM test rejects the null hypothesis, indicating cross-sectional dependence among residuals, validating the choice of the random effect model. The findings underscore the complex relationship between sustainability reporting and financial performance in Nigerian fast-moving consumer goods companies, offering valuable insights for practitioners and future research endeavors.

## 5.0 Conclusion and Recommendations

### 5.1 Conclusion

In conclusion, this study provides valuable insights into the complex relationship between sustainability reporting and financial performance in Nigerian fast-moving consumer goods companies. While certain sustainability variables exhibit correlations with financial indicators, the overall impact is nuanced and depends on the specific dimension of sustainability considered. These insights can guide companies, policymakers, and investors in formulating strategies that balance sustainability goals with financial success in the dynamic business landscape of Nigeria's fast-moving consumer goods. Further research could explore

additional factors and extend the study period to enhance the robustness of these findings.

## **5.2. Recommendation**

Based on the findings of the study, the following recommendations were made:

- i. Encourage companies to integrate sustainability practices more holistically into their operations, considering the interplay between environmental, social, and economic dimensions for a balanced approach.
- ii. Include a broader range of companies and industries to enhance the generalizability of findings and accommodate diverse business models within the Nigerian economic landscape.
- iii. Complement quantitative findings with qualitative insights through interviews or case studies to uncover nuanced details about how sustainability initiatives are implemented and perceived within companies.
- iv. Investigate the influence of external factors, such as regulatory changes or market trends, on the relationship between sustainability reporting and financial performance.
- v. Conduct comparative studies with companies from different regions or countries to discern potential cultural or contextual variations in the relationship between sustainability and financial indicators.
- vi. Explore the role of stakeholder engagement in shaping the relationship between sustainability practices and financial performance, considering the perspectives of investors, consumers, and other key stakeholders.
- vii. Encourages companies to take cognizance of their economic indicators reporting and disclosures for an improved Return on Equity, among others.

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