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Agricultural Extension Messages to Local Farmers for Enhanced Productivity through Environmental, Social and Governance Disclosures and Cost of Debt of Listed Consumer Goods Companies in Nigeria

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ABSTRACT

This study examined the effect of environmental, social and governance (ESG) disclosures on the cost of debt of listed consumer goods companies in Nigeria over the period 2016–2025. The study adopted an ex-post facto research design and purposively selected 12 of the 21 listed consumer goods companies based on the availability and consistency of relevant information. Secondary data were obtained from the audited annual reports and accounts of the sampled companies, resulting in 120 firm-year observations. Environmental, social and governance disclosures were measured using content-analysis indices, while cost of debt was measured as interest expense divided by total debt. Panel regression techniques were employed, with the Hausman specification test supporting the use of the random-effects model. Diagnostic tests were also conducted, and robust standard errors were applied in the final estimation. The findings revealed that environmental disclosure had a significant negative effect on cost of debt ($\beta = -0.736$, $p = 0.019$), while social disclosure also had a significant negative effect ($\beta = -1.543$, $p = 0.015$). In contrast, governance disclosure had a significant positive effect on cost of debt ($\beta = 0.277$, $p = 0.031$). The model explained 39.9% of the variation in cost of debt and was statistically significant. The study concludes that ESG disclosure does not exert a uniform influence on debt financing costs. Environmental and social transparency appear to reduce creditors' perceived risk, whereas governance disclosure may reveal governance-related risks or weaknesses that influence borrowing costs. The study recommends that listed consumer goods companies improve the quality, credibility and consistency of ESG disclosures, while regulators should strengthen standardized and enforceable ESG reporting requirements in Nigeria.

Keywords: *Environmental disclosure, social disclosure, governance disclosure, ESG disclosure, cost of debt, consumer goods companies, Nigeria.*

1.0 Introduction

The cost of external finance remains an important concern for firms because it influences investment decisions, capital structure, corporate valuation and long-term financial sustainability. In conventional corporate finance, the cost of capital represents the return required by providers of finance for committing resources to a firm. However, contemporary financial markets increasingly recognize that financing costs are influenced not only by conventional accounting and financial indicators but also by information relating to environmental, social and governance (ESG) practices. This development has increased the importance of non-financial corporate disclosures in the assessment of corporate risk.ESG disclosure provides information about how firms manage environmental responsibilities, relationships with employees and communities, and governance structures and practices. Such information can reduce information asymmetry between companies and capital providers by providing investors and creditors with additional evidence about the risks associated with corporate operations. Recent international evidence supports this argument. Mathath et al. (2024), for example, found that ESG disclosure was negatively associated with cost of debt among 556 Indian listed firms, with environmental and social disclosure having stronger effects than the governance component. Similarly, You et al. (2025) reported a negative relationship between ESG disclosure quality and debt-financing costs among Chinese listed companies, although the strength of the relationship varied according to institutional and firm-level conditions.The relationship between ESG disclosure and financing costs is particularly important in emerging markets. Firms operating in such markets often face information asymmetry, institutional weaknesses, volatile financial

conditions and relatively high financing costs. Under these conditions, voluntary disclosure of credible non-financial information may provide creditors with additional information for assessing default risk. Where ESG disclosure signals effective risk management, lenders may perceive firms as less risky and consequently require lower returns on lending.

Africa presents an especially important setting for examining this relationship because capital markets are characterized by substantial information asymmetry and heterogeneous institutional environments. Recent African evidence indicates that ESG disclosure can be associated with lower financing costs, although the magnitude of the effect depends on firm and institutional characteristics. Atanda et al. (2026), using 4,312 firm-year observations from 308 listed firms across African emerging markets over 2011–2024, found that ESG disclosure and managerial ability were associated with lower financing costs, including reductions in cost of debt. This evidence suggests that ESG information may be particularly valuable in markets where information asymmetry is relatively high.Nigeria provides an important context for investigating the relationship because listed firms operate in an environment characterized by changing macroeconomic conditions, financing constraints and increasing attention to sustainability reporting. Consumer goods companies are particularly relevant because their activities have direct implications for energy consumption, water use, waste management, product responsibility, labour relations, community engagement and corporate governance. Consequently, stakeholders may increasingly consider ESG information when evaluating the risk and sustainability of these firms.The relationship is, however, not necessarily uniform across the three dimensions of ESG. Environmental disclosure may reduce perceived exposure to environmental liabilities, regulatory sanctions and resource-related risks. Social disclosure may strengthen stakeholder relationships, employee stability, consumer confidence and corporate reputation. Governance disclosure may improve transparency and accountability, but extensive disclosure can also reveal weaknesses in corporate governance structures or increase compliance costs. Thus, the direction and magnitude of the relationship between individual ESG dimensions and financing costs remain an empirical question.Recent evidence reinforces the need for this disaggregated approach. Nguyen's (2025) study of Vietnamese listed firms found that sustainability reporting was negatively associated with cost of debt, cost of equity and WACC, with environmental-related disclosures producing particularly strong effects. Similarly, research on manufacturing firms has treated environmental, social and governance disclosure separately in examining their relationship with cost of debt and cost of equity.Although previous Nigerian studies have examined environmental disclosure, corporate governance and corporate social responsibility in relation to financial outcomes, relatively limited attention has been given to the combined ESG disclosure framework and its separate dimensions in explaining the cost of debt of listed consumer goods companies. This study therefore examines the effect of environmental, social and governance disclosures on the cost of debt of listed consumer goods companies in Nigeria.

The study specifically seeks to:

1. determine the effect of environmental disclosure on the cost of debt of listed consumer goods companies in Nigeria;
2. assess the effect of social disclosure on the cost of debt of listed consumer goods companies in Nigeria; and
3. analyse the effect of governance disclosure on the cost of debt of listed consumer goods companies in Nigeria.

Based on these objectives, the following null hypotheses were formulated:

$H0_1$: Environmental disclosure has no significant effect on the cost of debt of listed consumer goods companies in Nigeria.

$H0_2$: Social disclosure has no significant effect on the cost of debt of listed consumer goods companies in Nigeria.

$H0_3$: Governance disclosure has no significant effect on the cost of debt of listed consumer goods companies in Nigeria.

2.0 Literature Review

2.1 Conceptual Review

2.1.1 Cost of Debt

Cost of debt refers to the effective cost incurred by a firm in obtaining finance from lenders and other debt providers. It represents the return required by creditors for providing funds and bearing the risk of default. Unlike the cost of equity, which represents shareholders' required return, cost of debt is directly associated with a firm's interest-bearing obligations (Brealey et al., 2020; Goss & Roberts, 2011).The cost of debt is influenced by factors such as interest rates, leverage, profitability, creditworthiness, collateral, information asymmetry and perceived default risk (Goss & Roberts, 2011). Where creditors have limited information about a firm's risk profile, they may demand a higher risk premium. Greater corporate transparency can reduce such information asymmetry and potentially lower financing costs.In this study, cost of debt is measured as interest expense divided by total debt. This provides an accounting-based measure of the average financing cost associated with the firm's debt obligations. Recent evidence supports the relevance of ESG disclosure to debt financing. Mathath et al. (2024),

for example, found that ESG disclosure was negatively associated with cost of debt, with environmental and social disclosure producing particularly strong effects.

2.1.2 Environmental Disclosure

Environmental disclosure refers to information reported by a company concerning its environmental impacts, risks and management practices. It commonly covers energy use, water consumption, waste management, emissions, biodiversity, environmental compliance and pollution control (Clarkson et al., 2008; Deegan, 2002).

Environmental issues can create financial risks through regulatory penalties, remediation costs, litigation and operational disruptions. Consequently, transparent environmental disclosure can provide creditors with information about a firm's exposure to environmental risks and its capacity to manage them. Such disclosure may reduce information asymmetry and improve creditors' assessment of future cash flows and repayment capacity (Clarkson et al., 2008).Recent evidence suggests that environmental disclosure can influence financing costs. Mathath et al. (2024) found that environmental disclosure was significantly associated with lower cost of debt, while other recent evidence indicates that environmental and carbon-related disclosure can reduce information asymmetry and the cost of external finance.

2.1.3 Social Disclosure

Social disclosure refers to corporate information relating to employees, labour practices, occupational health and safety, human rights, diversity, training, community involvement and product responsibility (Clarkson et al., 2008).Social risks can affect business continuity through employee disputes, poor working conditions, reputational problems, community conflicts and product-related controversies. Disclosure of social policies and practices can therefore provide creditors with information about how firms manage stakeholder-related risks. Strong stakeholder relationships may reduce operational uncertainty and support stable future cash flows.Accordingly, social disclosure may reduce creditors' perceived risk and the premium demanded for debt finance. This argument is supported by Mathath et al. (2024), who found that social disclosure was negatively related to cost of debt.

2.1.4 Governance Disclosure

Governance disclosure refers to information concerning the structures and mechanisms through which a company is directed, controlled and held accountable. It includes information on board structure, governance procedures, internal controls, ethics, anti-corruption practices, compliance and risk management (Donaldson & Preston, 1995; OECD, 2015).Effective corporate governance can reduce agency problems, improve accountability and strengthen protection of stakeholders, including creditors. Governance disclosure can therefore reduce uncertainty concerning managerial decisions and the firm's control environment. However, greater governance disclosure may not always reduce financing costs. Where disclosure reveals weaknesses in internal controls, compliance or board effectiveness, creditors may perceive increased risk.Recent research confirms that governance does not necessarily produce the same financing effect as environmental and social disclosure. Mathath et al. (2024) found stronger effects for environmental and social disclosure than for governance disclosure, while Liu et al. (2025) demonstrated that the relationship between governance, ESG disclosure and cost of debt can be complex.

2.1.5 ESG Disclosure and Cost of Debt

ESG disclosure provides creditors with non-financial information that complements conventional financial statements. Information concerning environmental exposure, social relationships and governance practices can assist lenders in evaluating risks that may affect future cash flows and debt-servicing capacity.From an information-asymmetry perspective, credible ESG disclosure can reduce uncertainty between managers and creditors and may consequently lower the risk premium attached to debt finance. Recent empirical evidence supports this argument. Mathath et al. (2024) found a negative relationship between ESG disclosure and cost of debt, while You et al. (2025) similarly reported that higher ESG disclosure quality was associated with lower debt-financing costs.However, the effect may differ across ESG dimensions and institutional contexts. Environmental and social disclosure may reduce perceived operational and reputational risks, whereas governance disclosure may either reduce uncertainty or expose previously unobserved governance weaknesses. The present study therefore examines environmental, social and governance disclosures separately to determine their individual effects on the cost of debt of listed consumer goods companies in Nigeria.

2.2 Theoretical Review

2.2.1 Signaling Theory

Signaling theory was introduced by Spence (1973) to explain how informed parties communicate information about their quality to less-informed parties under conditions of information asymmetry. In the corporate environment, managers possess more information about the firm's operations and prospects than external investors and creditors. Voluntary corporate disclosures can therefore serve as signals through which firms communicate information about their quality and risk.Connelly et al. (2011) explain that an effective signal should be sufficiently credible to distinguish the sender from lower-quality alternatives. ESG disclosure can function as such a signal where companies provide credible information concerning their environmental management, social responsibility and governance practices. A firm that demonstrates strong ESG performance may signal superior risk management and long-term sustainability to creditors.

Applied to this study, signaling theory suggests that credible environmental, social and governance disclosures should reduce information asymmetry and perceived credit risk. Consequently, creditors may require lower returns from firms with stronger and more credible ESG disclosures. The theory therefore supports the expectation of a negative relationship between ESG disclosure and cost of debt.However, the theory has a limitation. ESG disclosure may not always constitute a credible signal because firms can engage in symbolic disclosure or greenwashing. Where creditors perceive disclosures as superficial or difficult to verify, the information may have limited influence on financing decisions.

2.2.2 Stakeholder Theory

Stakeholder theory was developed by Freeman (1984) and argues that firms have responsibilities to multiple stakeholder groups, including shareholders, employees, customers, suppliers, communities and creditors. The theory emphasizes that long-term corporate success depends on maintaining effective relationships with these stakeholders.Donaldson and Preston (1995) further developed stakeholder theory by distinguishing its normative, instrumental and descriptive dimensions. From an instrumental perspective, effective stakeholder management can improve organizational outcomes by reducing conflicts and strengthening relationships.ESG disclosure fits naturally within stakeholder theory because environmental, social and governance information communicates how firms respond to stakeholder expectations. Strong social disclosure can demonstrate responsible treatment of employees and communities, while environmental disclosure can demonstrate responsiveness to environmental concerns. Governance disclosure can provide evidence of accountability and transparency.For creditors, effective stakeholder management may reduce operational and reputational risks that could affect the firm's capacity to repay debt. The theory therefore suggests that stronger ESG disclosure should be associated with lower cost of debt.

2.2.3 Legitimacy Theory

Legitimacy theory, associated particularly with Suchman (1995), proposes that organizations seek to maintain acceptance by aligning their activities with the norms, values and expectations of the societies in which they operate.Corporate ESG disclosures can be understood as mechanisms through which firms demonstrate conformity with societal expectations. Environmental reporting, employee-related disclosure, community information and governance reporting can help companies maintain legitimacy among stakeholders.In relation to cost of debt, legitimacy theory suggests that firms that demonstrate responsible corporate behaviour may experience lower reputational and institutional risks. Creditors may consequently perceive such companies as more stable and reliable borrowers. However, symbolic disclosure without substantive performance improvement may fail to generate legitimacy and could even increase stakeholder scrutiny.

2.3 Empirical Review

Recent empirical evidence generally suggests that ESG disclosure can influence financing costs, although the magnitude and direction of the relationship vary according to the institutional and market environment.

Mathath et al. (2024) investigated ESG disclosure and cost of debt among 556 Indian listed firms. The study found a negative relationship between ESG disclosure and cost of debt, with environmental and social dimensions having stronger effects than governance disclosure. This finding supports the argument that ESG transparency can reduce creditors' assessment of corporate risk.Similarly, You et al. (2025) examined ESG disclosure quality and cost of debt among Chinese listed companies. The study found a negative relationship between ESG disclosure quality and debt-financing costs. The effect was particularly evident among non-state-owned firms and firms with greater information asymmetry, suggesting that ESG disclosure may be especially valuable where conventional information is relatively limited.

Atanda et al. (2026) examined ESG disclosure and cost of capital across 308 listed firms in African emerging markets using 4,312 firm-year observations from 2011 to 2024. The study found that ESG disclosure was associated with lower financing costs, while the interaction between ESG disclosure and managerial ability further reduced financing costs under conditions of high information asymmetry and leverage.

In Nigeria, studies have also examined individual components of sustainability and corporate governance in relation to financing costs. Atagher and Iorlaha (2024) examined the effect of corporate governance mechanisms on the cost of debt of listed consumer goods companies in Nigeria and found that board size, board independence, board meetings, and audit committee size significantly reduced the cost of debt, highlighting the relevance of governance characteristics to creditors' financing decisions. Similarly, Akpan, Akinninyi, and Inwang (2024) investigated environmental disclosure and the cost of equity among listed consumer goods firms in Nigeria and reported that environmental risk disclosure and waste management disclosure significantly reduced the cost of equity. These findings suggest that both corporate governance quality and environmental transparency can influence firms' financing costs by reducing information asymmetry and perceived risk among providers of capital.

The existing evidence nevertheless reveals an important gap. First, much of the Nigerian literature concentrates on either corporate social responsibility, environmental disclosure or conventional corporate governance mechanisms rather than a unified ESG disclosure framework. Second, previous studies frequently focus on cost

of equity or broad firm performance measures rather than the cost of debt. Third, international evidence suggests that environmental, social and governance dimensions may have different effects on financing costs. This provides justification for examining the three dimensions separately within the Nigerian consumer goods sector.

3.0 Methodology

The study adopted an ex-post facto research design. The design was appropriate because the study relied on historical financial and non-financial information contained in published annual reports and did not manipulate the explanatory variables.

The population comprised 21 consumer goods companies listed on the Nigerian Exchange Group during the study period. Twelve (12) listed companies were selected purposively based on the availability, consistency and completeness of annual-report information required for measuring ESG disclosure and cost of debt.

The study relied exclusively on secondary data. Data were obtained from audited annual reports and accounts of the sampled companies from the period 2016 – 2025. ESG information was extracted through systematic content analysis.

3.1 Variables Measurement

1. ESG Disclosure: ESG disclosure was measured using a disclosure-index approach. Each disclosure item was assigned a dichotomous score of one (1) where the item was disclosed and zero (0) where it was not disclosed. The approach reduces subjectivity and permits comparable measurement across firms and years.

The environmental disclosure index was calculated as:

$$\mathbf{EDI = \Sigma di / nE}$$

where:

EDI = Environmental Disclosure Index;
di = 1 if environmental item *i* is disclosed and 0 otherwise; and
nE = total number of environmental disclosure items.

Similarly:

$$\mathbf{SDI = \Sigma di / nS}$$

where SDI represents Social Disclosure Index and nS represents the total number of social disclosure items.

The governance disclosure index was calculated as:

$$\mathbf{GDI = \Sigma di / nG}$$

where GDI represents Governance Disclosure Index and nG represents the total number of governance disclosure items. Table 1 presents the major areas covered by the disclosure framework, categorized into environmental, social, and governance disclosures. Environmental disclosures include energy, water, waste management, carbon emissions, biodiversity, environmental compliance, and product/service stewardship.

The disclosure framework covered the following major areas:

Table 1: Major Areas of Disclosure Framework

Environmental disclosure	Social disclosure	Governance disclosure
Energy	Equal opportunity and diversity	Code of corporate governance
Water	Industrial relations and labour	Governance procedures
Waste management	Safety and health at work	Anti-corruption and ethics
Carbon emissions	Education and training	
Biodiversity	Human rights	
Environmental compliance	Community participation	
Product/service stewardship	Product accountability	
	Charity	

The index approach is consistent with the broad content-analysis methodology frequently used in corporate disclosure studies.

2. Cost of Debt: Cost of debt was measured as:

$$\mathbf{CD = Interest\ Expense / Total\ Debt}$$

where CD represents cost of debt.

This measure captures the average financing cost associated with the firm's debt obligations.

3.2 Model Specification

The functional relationship was specified as:

$$\mathbf{CD = \mathit{f}(ED, SD, GD)}$$

The stochastic model was specified as:

$$\mathbf{CD_{it} = \beta_0 + \beta_1 ED_{it} + \beta_2 SD_{it} + \beta_3 GD_{it} + \varepsilon_{it}}$$

Where:

CD = cost of debt;
ED = environmental disclosure;
SD = social disclosure;

GD = governance disclosure;
β_0 = constant;
β_1–β_3 = coefficients of the explanatory variables;
ε = error term;
i = firm; and
t = time period.

3.3 Estimation Procedure

The study employed panel-data regression techniques. Pooled ordinary least squares, fixed-effects and random-effects estimators were considered. The Hausman specification test was used to determine whether the fixed-effects or random-effects estimator was more appropriate. Diagnostic tests included the variance inflation factor (VIF), heteroscedasticity test and serial-correlation test.

4.0 Results and Discussion

Table 2 presents the descriptive properties of the study variables. Cost of debt has a mean value of 0.2088 and a standard deviation of 0.6116. The difference between the minimum value of zero and the maximum value of 4.130 indicates considerable variation in borrowing costs among the sampled firms. Environmental disclosure has a mean of 0.8190, suggesting that the sampled firms disclosed, on average, approximately 81.9% of the environmental items contained in the disclosure framework. Governance disclosure recorded a mean of 0.6222, indicating comparatively lower governance disclosure coverage. Social disclosure recorded a mean of 0.5344, showing that social disclosure was less extensive than environmental disclosure. The descriptive results suggest that environmental information was comparatively more developed among the sampled firms, while social and governance reporting exhibited greater room for improvement.

Table 2: Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
CD	120	0.2088	0.6116	0.000	4.130
GD	120	0.6222	0.3174	0.000	1.000
ED	120	0.8190	0.1931	0.000	1.000
SD	120	0.5344	0.2297	0.000	1.000

Source: Authors' computation, 2026.

Table 3 presents the correlation matrix and Variance Inflation Factor (VIF) statistics for the variables included in the regression model. The correlation coefficients between cost of debt (CD) and environmental disclosure (ED), social disclosure (SD), and governance disclosure (GD) are 0.036, 0.062, and 0.033, respectively, indicating very weak positive associations. Similarly, the explanatory variables exhibit weak correlations with one another, with the strongest observed correlation being −0.126 between ED and GD. These results suggest that the explanatory variables are not strongly linearly associated. Furthermore, the VIF values range from 1.032 to 1.104, which are substantially below the commonly used threshold of 10. This indicates that multicollinearity is unlikely to pose a significant problem in the regression model. Overall, the correlation and VIF statistics provide evidence that the explanatory variables are sufficiently independent for reliable estimation of the regression coefficients.

Table 3: Correlation Matrix and VIF

Variable	CD	ED	SD	GD	VIF
CD	1.000				
ED	0.036	1.000			1.096
SD	0.062	−0.003	1.000		1.104
GD	0.033	−0.126	−0.095	1.000	1.032

Source: Authors' computation, 2026.

Table 4 presents the model validity, specification, and diagnostic test results. The Hausman specification test reports a statistic of 1.7447 with a probability value of 0.6270, indicating that the null hypothesis is not rejected and that the random-effects specification is appropriate for the analysis. The heteroscedasticity test produces a statistic of 2.162 with a probability value of 0.095, suggesting that there is no statistically significant evidence of heteroscedasticity at the 5% significance level. However, the Serial Correlation LM test is statistically significant (37.315; $p < 0.001$), indicating the presence of serial correlation. Consequently, robust estimation procedures were applied to obtain more reliable standard errors and statistical inferences. The VIF values for environmental disclosure (1.096), social disclosure (1.104), and governance disclosure (1.032) are all substantially below the

conventional threshold of 10, confirming that multicollinearity is not a concern among the explanatory variables. Overall, the diagnostic results support the use of the random-effects model with robust estimation.

Table 4: Model Validity, Specification and Diagnostic Tests

Test	Statistic	Probability	Decision
Hausman Specification Test	1.7447	0.6270	Random-effects model appropriate
Heteroscedasticity Test	2.162	0.095	No significant heteroscedasticity
Serial Correlation LM Test	37.315	0.000	Robust estimation applied
VIF – ED	1.096	—	No multicollinearity
VIF – SD	1.104	—	No multicollinearity
VIF – GD	1.032	—	No multicollinearity

Source: Authors' computation, 2026.

Table 5 presents the results of the random-effects regression model estimated using robust standard errors. The constant term is positive and statistically significant ($\beta = 2.248$, $p < 0.001$). Environmental disclosure (ED) has a negative and statistically significant coefficient ($\beta = -0.736$, $p = 0.019$), indicating an inverse association between environmental disclosure and cost of debt. Similarly, social disclosure (SD) exhibits a negative and statistically significant relationship with cost of debt ($\beta = -1.543$, $p = 0.015$). In contrast, governance disclosure (GD) has a positive and statistically significant coefficient ($\beta = 0.277$, $p = 0.031$), indicating a positive association with cost of debt. The model explains approximately 39.9% of the variation in cost of debt, as indicated by the R^2 of 0.399. Furthermore, the Wald statistic of 13.934 with a probability value of 0.003 indicates that the explanatory variables are jointly statistically significant. Overall, the results provide evidence that environmental, social, and governance disclosures have statistically significant relationships with the cost of debt, although the direction and magnitude of the relationships differ across the three disclosure dimensions.

Table 5: Random-Effects Regression with Robust Standard Errors

Variable	Coefficient	Robust Std. Error	t-Statistic	Probability	Decision
Constant	2.248	0.258	8.708	0.000	Significant
Environmental Disclosure (ED)	−0.736	0.309	−2.378	0.019	Significant
Social Disclosure (SD)	−1.543	0.623	−2.478	0.015	Significant
Governance Disclosure (GD)	0.277	0.130	2.132	0.031	Significant
R^2	0.399				
Wald Statistic	13.934			0.003	Significant

Source: Authors' computation, 2026.

The random-effects regression with robust standard errors indicates that environmental, social and governance disclosure jointly explain approximately 39.9% of the variation in cost of debt. Environmental disclosure has a negative and statistically significant coefficient of −0.736 ($p = 0.019$), indicating that greater environmental disclosure is associated with a reduction in cost of debt. Social disclosure also has a negative and significant effect, with a coefficient of −1.543 ($p = 0.015$). In contrast, governance disclosure has a positive and significant coefficient of 0.277 ($p = 0.031$), suggesting that greater governance disclosure is associated with an increase in cost of debt. Table 6 summarises the results of the hypotheses testing. The findings show that environmental disclosure and social disclosure have significant negative effects on cost of debt, with p-values of 0.019 and 0.015, respectively. In contrast, governance disclosure has a significant positive effect on cost of debt ($p = 0.031$). Since all the p-values are below the 5% significance level, the three null hypotheses are rejected. Thus, environmental and social disclosure reduce cost of debt, while governance disclosure increases it.

Table 6: Summary of Hypotheses Testing

Hypothesis	Statement	Coefficient	p-value	Decision	Conclusion
$H0_1$	Environmental disclosure has no significant effect on cost of debt.	−0.736	0.019	Reject H_{01}	Significant negative effect
$H0_2$	Social disclosure has no significant effect on cost of debt.	−1.543	0.015	Reject H_{02}	Significant negative effect
$H0_3$	Governance disclosure has no significant effect on cost of debt.	0.277	0.031	Reject H_{03}	Significant positive effect

4.2 Discussion of Findings

4.2.1 Environmental Disclosure and Cost of Debt

The significant negative relationship between environmental disclosure and cost of debt suggests that environmental transparency provides economically relevant information to creditors. Consumer goods companies are exposed to environmental risks associated with energy use, water consumption, waste generation, emissions and production processes. By disclosing information concerning these issues, firms may reduce uncertainty about

potential environmental liabilities.The finding supports signaling theory because environmental disclosure can serve as a signal of management's capacity to identify and manage environmental risks. It also supports stakeholder theory because responsible environmental management can improve relationships with regulators, communities and other stakeholders.The finding is consistent with Mathath et al. (2024), who found that environmental disclosure was particularly important in reducing cost of debt among Indian listed firms. It is also consistent with evidence that carbon-emission disclosure can reduce implied cost of capital through improved stock liquidity.

4.2.2 Social Disclosure and Cost of Debt

The negative effect of social disclosure indicates that transparency concerning social responsibility may reduce creditors' perception of corporate risk. Consumer goods firms depend heavily on employees, consumers, suppliers and communities. Poor relationships with these groups can lead to labour disputes, product boycotts, reputational damage and operational interruptions.Social disclosure can therefore demonstrate that management is proactively managing stakeholder-related risks. This finding is consistent with stakeholder theory because strong stakeholder relationships can contribute to organizational stability and long-term value creation.The result is also consistent with recent research showing that social components of ESG can contribute to lower financing costs. Mathath et al. (2024) found that environmental and social ESG components had stronger effects on cost of debt than the governance component.

4.2.3 Governance Disclosure and Cost of Debt

The positive relationship between governance disclosure and cost of debt represents a distinctive finding of the study. Although greater governance transparency is generally expected to reduce agency conflicts and creditor risk, the finding suggests that the Nigerian institutional environment may produce a different outcome.The result is consistent with Atagher and Iorlaha (2024), who found that corporate governance characteristics significantly influence the cost of debt among listed consumer goods companies in Nigeria. However, the positive relationship observed in the present study may arise because greater governance disclosure can reveal weaknesses in board effectiveness, internal controls, compliance, or risk-management practices, thereby increasing creditors' perception of risk.The finding may also reflect differences in measurement. While previous studies often examine specific governance mechanisms, this study focuses on the extent of governance disclosure, which may indicate transparency without necessarily reflecting governance quality. Overall, the result highlights the importance of examining ESG dimensions separately and suggests that governance disclosure does not necessarily reduce financing costs in the Nigerian context.

5.0 Conclusion

This study examined the effect of environmental, social and governance disclosures on the cost of debt of listed consumer goods companies in Nigeria. Based on the empirical evidence, environmental and social disclosures significantly reduce cost of debt, while governance disclosure significantly increases cost of debt.The findings demonstrate that ESG disclosure has important implications for the financing conditions of Nigerian consumer goods companies. Environmental and social transparency appear to provide information that is valued by creditors and may contribute to lower borrowing costs. Governance disclosure, however, produces a different result, suggesting that the relationship between non-financial disclosure and financing costs is context-specific and should not be treated as uniformly negative.Overall, the study concludes that ESG disclosure is financially relevant to listed consumer goods companies in Nigeria. The results support the view that credible non-financial information can reduce information asymmetry and influence creditors' assessment of corporate risk. At the same time, the positive governance effect highlights the need to distinguish between the disclosure of governance information and the actual quality of governance practices.

5.1 Recommendations

Based on the findings, the study recommends that:

1. **Consumer goods companies should strengthen environmental disclosure:** Companies should provide detailed, consistent and verifiable information on energy consumption, water use, waste management, emissions, biodiversity and environmental compliance. Such disclosure can improve transparency and potentially reduce creditors' perception of environmental risk.
2. **Companies should improve the quality of social disclosure:** Listed consumer goods companies should provide comprehensive information on employee welfare, occupational health and safety, training, human rights, community development and product responsibility. The significant negative relationship between social disclosure and cost of debt indicates that stronger social transparency may contribute to more favourable financing conditions.
3. **Governance disclosure should focus on substance rather than volume:** The positive relationship between governance disclosure and cost of debt suggests that simply increasing the quantity of governance information may not reduce financing costs. Companies should therefore ensure that governance disclosures accurately demonstrate effective board oversight, internal controls, ethical conduct, compliance and accountability.

4. **Regulators should strengthen ESG reporting guidance:** The Nigerian Exchange Group and other relevant regulatory institutions should promote standardized ESG disclosure requirements that enhance comparability and reduce information asymmetry among listed companies.

5.2 Contribution to Knowledge

The study contributes to the literature in three principal ways. First, it provides evidence on the relationship between individual ESG disclosure dimensions and cost of debt rather than treating ESG disclosure exclusively as an aggregate measure. Second, it contributes sector-specific evidence from listed consumer goods companies in Nigeria, an emerging-market context in which financing costs and information asymmetry remain important corporate concerns. Third, the study demonstrates that the three ESG dimensions do not necessarily produce identical financing outcomes: environmental and social disclosure reduce cost of debt, whereas governance disclosure has the opposite effect.

The study therefore provides evidence that ESG disclosure should be viewed as a multidimensional phenomenon whose financial consequences depend on the particular nature of the information disclosed and the institutional environment in which firms operate.

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