ESG DISCLOSURE AND FIRM VALUATION: EMPIRICAL EVIDENCE OF LISTED INDUSTRIAL GOODS COMPANIES IN NIGERIA.

Alabi Fatai Zakariyau
Department of Accounting Finance
Kwara State University Malete
alabifatai11@gmail.com

DOI: https://doi.org/10.57233/gujaf.v7i5.11

Abstract
Sustainability reporting has become increasingly important as investors and stakeholders consider environmental, social, and governance (ESG) issues in assessing corporate performance and value. However, evidence on the value relevance of ESG disclosures remains limited in emerging economies, particularly within specific industrial sectors. This study examines the separate effects of environmental, social, and governance disclosures on the market valuation of listed industrial goods companies in Nigeria. An ex post facto research design was adopted within a quantitative panel data framework, using observations from selected listed industrial goods companies covering 2016–2025. Environmental disclosure index (EDI), social disclosure index (SDI), and governance disclosure index (GDI) measured the respective ESG dimensions, while market valuation was proxied by Tobin's Q. The hypotheses were tested using the Driscoll–Kraay fixed-effects estimator following relevant diagnostic and specification tests. The results revealed positive coefficients for environmental disclosure ($\beta = 0.239$; $t = 2.439$; $p = 0.032$), social disclosure ($\beta = 0.361$; $t = 1.473$; $p = 0.024$), and governance disclosure ($\beta = 0.318$; $t = 1.042$; $p = 0.016$). These estimates indicate positive relationships between ESG disclosures and market valuation. The study contributes sector-specific evidence to the sustainability reporting literature by examining the separate valuation implications of ESG disclosures in an emerging capital market. It recommends that companies improve ESG disclosure quality and transparency, while regulators and professional accounting bodies strengthen reporting guidelines to enhance sustainability information reliability and investor confidence.

Keywords: Environmental disclosure, governance disclosure, market valuation, social disclosure, tobin's Q.

1.0 Introduction

In recent years, corporate sustainability reporting has become increasingly important as investors, regulators, and other stakeholders demand greater transparency, accountability, and responsible business conduct (Gillan et al., 2021; Friede et al., 2020). This development has positioned Environmental, Social, and Governance (ESG) disclosure as an important component of corporate reporting. Unlike conventional financial reporting, ESG disclosure provides information about firms' environmental performance, social responsibility, and governance practices, enabling stakeholders to assess corporate sustainability, long-term resilience, and potential value creation (Eccles et al., 2020). Consequently, ESG disclosure has attracted increasing scholarly attention regarding its relevance to corporate performance, risk exposure, and market valuation. ESG disclosure comprises three distinct but interrelated dimensions: environmental, social, and governance disclosure.

Environmental disclosure covers emissions, energy consumption, waste management, environmental conservation, and regulatory compliance. Social disclosure addresses employee welfare, occupational health and safety, labour practices, diversity, human rights, and community engagement. Governance disclosure focuses on board structure, executive compensation, shareholder rights, internal controls, ethical conduct, and corporate transparency. Although these di mensions collectively reflect corporate sustainability, their implications for market valuation may differ. Environmental disclosure may influence perceptions of regulatory exposure and resource efficiency, social disclosure may signal effective stakeholder management, while governance disclosure may strengthen confidence in managerial accountability and shareholder

protection. Aggregating these dimensions into a composite index may therefore conceal their individual valuation relationships, necessitating separate examination (Atanda & Adediran, 2026).

The industrial goods sector provides a relevant context for investigating ESG disclosure because companies in this sector face environmental and social responsibilities associated with energy consumption, resource utilisation, emissions, industrial waste, employee safety, and host-community relations. These factors expose firms to operational, regulatory, reputational, and financial risks that may influence investors' assessments of future performance. Although the sector contributes to industrialisation, employment generation, and economic growth, investors require credible information to evaluate how companies manage sustainability risks and maintain operational continuity. Whether such information translates into higher market valuation remains an empirical question, justifying sector-specific investigation (Clark et al., 2020; Ofoegbu et al., 2020).

Despite the growing prominence of ESG reporting, its relationship with market valuation remains inconclusive across different institutional and economic settings. Market valuation reflects investors' assessments of firms' financial positions, growth opportunities, risk exposure, and expected future performance and is commonly measured using Tobin's Q, market capitalisation, and the market-to-book ratio. Credible ESG disclosure may improve valuation by reducing information asymmetry, strengthening corporate reputation, communicating effective risk management, and enhancing investor confidence. However, disclosure does not automatically produce favourable outcomes because investors may consider its credibility, relevance, consistency, and materiality. Sustainability-related costs, symbolic reporting, and differences in institutional and regulatory environments may also influence how ESG information is interpreted. The relationship therefore requires empirical investigation rather than an assumption of uniformly positive outcomes.

These concerns are particularly relevant in Nigeria, where differences in corporate reporting practices and institutional conditions may affect the credibility, consistency, and usefulness of ESG information. Environmental disclosure may vary with regulatory enforcement, while social disclosure may differ in its coverage of employee welfare and community engagement. Governance disclosure also varies in areas such as board accountability, internal controls, and transparency (Ofoegbu et al., 2020). Such variations raise questions about whether investors perceive ESG disclosures as credible signals of corporate quality and whether the three dimensions are equally relevant to market valuation. For listed industrial goods companies, these questions are particularly important because environmental exposure, operational risks, and stakeholder relationships may influence investment decisions.

Empirical studies have reported mixed findings regarding the relationship between ESG disclosure and market valuation. Some identify positive associations, suggesting that sustainability reporting enhances transparency, strengthens corporate reputation, reduces perceived risks, and improves investor confidence (Bose, 2020; Velte, 2021). Others report weak, statistically insignificant, or mixed relationships, particularly where institutional arrangements and reporting practices differ (Gillan et al., 2021; Igbinovia&Agbadua, 2023). These inconsistencies suggest that the valuation implications of ESG disclosure may depend on the dimensions examined, firm characteristics, and institutional context. Furthermore, findings from broad industry samples may not adequately represent listed industrial goods companies in Nigeria. Reliable disclosure may help investors

assess sustainability-related risks, but its valuation implications ultimately depend on whether the information is considered credible and decision-useful.

Although existing research has advanced understanding of ESG disclosure and corporate valuation, three gaps motivate the present study. First, a measurement gap arises from the use of composite ESG indices that conceal differences in the individual valuation relationships of environmental, social, and governance disclosures. The study addresses this gap by examining the three dimensions separately within a common empirical framework.

Second, a contextual gap concerns the need for sector-specific evidence on listed industrial goods companies in Nigeria. Broad cross-industry studies may not adequately capture the environmental responsibilities, sustainability challenges, and operational risks associated with industrial production. Examining this sector provides an opportunity to establish the valuation relevance of ESG disclosure in an industry characterised by significant environmental exposure and stakeholder responsibilities.

Third, an empirical gap relates to the need to compare the individual relationships between environmental, social, and governance disclosures and market valuation using a consistent outcome measure, study period, and estimation framework. Examining these dimensions across different samples or specifications may limit direct comparison. Accordingly, this study investigates their relationships with market valuation using a common panel of listed industrial goods companies over 2016–2025, enabling consistent assessment of the direction and statistical significance of each relationship.

Against this background, the study examines the individual relationships between environmental, social, and governance disclosures and the market valuation of listed industrial goods companies in Nigeria over the period 2016–2025. By examining the three ESG disclosure dimensions separately, the study seeks to establish whether environmental, social, and governance disclosures exhibit similar or different relationships with market valuation. The study also provides sector-specific evidence to enhance understanding of the value relevance of sustainability reporting within the Nigerian capital market.

The study contributes to the literature in three ways. First, it disaggregates ESG disclosure to distinguish the individual valuation relationships of environmental, social, and governance disclosures. Second, it provides sector-specific evidence from listed industrial goods companies in Nigeria. Third, it examines the three dimensions within a common panel data framework and study period, facilitating consistent comparison of their relationships with market valuation. The findings are expected to inform corporate managers, assist investors in evaluating ESG-related information, and support regulators and professional bodies in promoting credible, consistent, and comparable sustainability disclosures. By addressing the identified measurement, contextual, and empirical gaps, the study seeks to advance understanding of the value relevance of ESG disclosure in Nigeria's industrial goods sector.

2.0 Literature Review

Environmental disclosure is the reporting of a company's environmental policies, practices, performance, and impacts in corporate reports such as annual, sustainability, and integrated reports (Gray et al., 1995). It includes topics like greenhouse gas emissions, energy and water consumption, waste management, pollution control, biodiversity, climate change initiatives, and compliance with environmental regulations. The main goal is to improve transparency by giving stakeholders

reliable information about a firm's environmental performance and sustainability efforts. As concerns about climate change and sustainable development continue to grow, environmental disclosure has become an increasingly important part of corporate reporting. Guided by frameworks such as the Global Reporting Initiative (GRI, 2021), companies are disclosing more environmental information to reduce information gaps, build stakeholder trust, strengthen legitimacy, and potentially improve market value. Environmental disclosure is often measured through disclosure indices or content analysis, which evaluate both the amount and quality of environmental information reported (Clarkson et al., 2008).

In this study, environmental disclosure refers to the extent to which listed industrial goods firms in Nigeria disclose information on their environmental policies, practices, performance, and regulatory compliance. Given the industry's significant environmental impact, greater environmental disclosure is expected to enhance transparency, reinforce stakeholder trust, and contribute positively to market responsible social practices and long-term sustainable value creation. valuation.

Social Disclosure

Social disclosure refers to the reporting of information about a company's relationships with employees, customers, suppliers, local communities, and other stakeholders through annual reports, sustainability reports, and integrated reports, often guided by frameworks such as the Global Reporting Initiative (GRI, 2021). It includes topics such as employee welfare, health and safety, labor practices, diversity and inclusion, human rights, customer responsibility, community development, and corporate social responsibility initiatives.

As expectations for ethical and sustainable business practices continue to rise, social disclosure has become a key part of corporate reporting. It can help reduce information gaps, build stakeholder trust, improve a company's reputation, and strengthen its legitimacy, all of which may have a positive effect on market value. Social disclosure is typically measured using disclosure indices or content analysis to evaluate how much and how well a firm report on its social performance (Wagenhofer, 2023; Jámbor & Zanócz, 2023).

In this study, social disclosure is defined as the extent to which listed industrial goods companies in Nigeria report information on employee welfare, stakeholder relations, community development, social responsibility initiatives, social policies, and overall social performance. Higher levels of social disclosure are expected to enhance corporate transparency, strengthen stakeholder confidence, and improve market valuation by signalling the firm's commitment to

Governance Disclosure

Governance disclosure is about sharing information on how a company is run, including its leadership structure, oversight processes, and the systems in place to support accountability, transparency, and ethical decisions. It usually covers areas such as board composition and independence, board committees, executive pay, shareholder rights, ownership structure, internal controls, risk management, audit quality, and compliance with corporate governance rules (GRI, 2021). This kind of information helps investors and other stakeholders assess how well a company's governance protects shareholder interests and supports responsible management.

The growing importance of governance disclosure reflects increasing stakeholder demand for greater transparency and accountability in corporate decision-making. Effective governance disclosure reduces information asymmetry and agency conflicts by signalling strong oversight,

sound internal controls, and responsible managerial practices. Consequently, firms with more comprehensive governance disclosure are often perceived as having lower governance risk, stronger corporate credibility, and better prospects for sustainable value creation. Governance disclosure is commonly assessed using governance disclosure indices or content analysis that measure the scope and quality of governance-related information reported by firms (Wagenhofer, 2023; Jámbor & Zanócz, 2023).

For this study, governance disclosure is defined as the extent to which listed industrial goods firms in Nigeria report information on their governance structures, board characteristics, internal control systems, risk management practices, and compliance with corporate governance requirements. Given the strategic importance of governance in the industrial goods sector, greater governance disclosure is expected to strengthen investor confidence, improve corporate transparency, reduce information risk, and positively influence market valuation.

Market Valuation

Market valuation represents the market's assessment of a firm's economic value based on investors' expectations of its future cash flows, growth opportunities, profitability, and risk profile. As a forward-looking measure, it reflects the information available to market participants and serves as an important indicator of corporate performance and long-term value creation (Penman, 2013; Damodaran, 2012). Unlike accounting-based measures, market valuation incorporates both financial and non-financial information, including sustainability performance and corporate governance, into investors' valuation decisions.

The literature suggests that market valuation is influenced by the quality and credibility of corporate disclosures. High-quality disclosures reduce information asymmetry, enhance transparency, strengthen investor confidence, and facilitate more efficient pricing of firms' securities. Consequently, firms that provide comprehensive and reliable ESG information are more likely to experience improved market valuation due to lower information risk and enhanced stakeholder confidence. Market valuation is commonly measured using market-based indicators such as Tobin's Q, market capitalisation, market-to-book ratio, and share price, with Tobin's Q being the most widely adopted proxy because it captures investors' expectations of future performance and growth opportunities (Brigham & Ehrhardt, 2022).

Within the context of this study, market valuation refers to the economic value assigned by investors to listed industrial goods firms in Nigeria, measured using Tobin's Q. The choice of Tobin's Q is justified by its ability to capture the market's forward-looking assessment of firm value, making it an appropriate proxy for examining the effect of environmental, social, and governance disclosures on the market valuation of listed industrial goods firms in Nigeria.

Empirical Review

Summary of Empirical Review of Environmental Disclosure and Market Valuation

Empirical evidence on environmental disclosure and market valuation remains mixed, reflecting differences in measurement, industry coverage, and estimation techniques. Studies by Al-Tuwaijri et al. (2004), Clarkson et al. (2008), Plumlee et al. (2015), Qiu et al. (2016), Cormier and Magnan (2015), Saka and Oshika (2014), and Brahmana and You (2021) provide evidence of its potential valuation relevance. Positive relationships suggest that environmental disclosure may reduce information asymmetry, communicate environmental risk-management practices, and strengthen investor confidence. However, its valuation implications may depend on the credibility and materiality of disclosed information. Environmental performance should also be distinguished

from environmental disclosure because their valuation implications may differ. Recent Nigerian studies provide sector-specific evidence. Agweda et al. (2024) examined 12 listed industrial goods firms over 2012–2023, focusing on emissions, pollution-control equipment, environmental compliance, and grievance mechanisms. Using panel least-squares regression, they found positive and statistically significant relationships between all four indicators and market value added, suggesting that specific environmental disclosures may influence market valuation.

Conversely, Dan et al. (2025) examined 11 listed industrial goods firms over 2014–2023, using market capitalisation and ordinary least-squares regression. Their findings indicated that environmental sustainability disclosure had an insignificant relationship with market value, although social sustainability disclosure was positively significant. This contrasts with Agweda et al. (2024), potentially reflecting differences in disclosure indicators, valuation proxies, and estimation techniques. Similarly, Olanisebe et al. (2026) investigated ESG disclosure and firm value among 11 listed industrial goods firms over 2013–2024. They reported a positive relationship between environmental disclosure and firm value, while governance disclosure was insignificant. Their study also examined the moderating role of board gender diversity, extending the analysis beyond direct ESG valuation relationships.

Overall, the mixed findings suggest that the relationship between environmental disclosure and market valuation may depend on disclosure indicators, valuation measures, study periods, and estimation techniques. Market value added and market capitalisation capture different valuation dimensions, while specific environmental indicators may convey different information from composite disclosure indices.

Consequently, the present study examines environmental disclosure alongside social and governance disclosure, using Tobin's Q as the valuation proxy for listed industrial goods firms in Nigeria over 2016–2025. This approach provides a consistent framework for assessing the environmental disclosure valuation relationship while building on previous sector-specific evidence.

Summary of Empirical Review of Social Disclosure and Market Valuation

Research on social disclosure and market valuation has produced mixed findings. Studies by Qiu et al. (2016), Servaes and Tamayo (2013), Gregory et al. (2016), and Ahmad et al. (2021) provide evidence that social responsibility information may influence investors' assessments of corporate value. Disclosures concerning employee welfare, occupational safety, labour practices, and community engagement may strengthen stakeholder relationships and corporate reputation. However, social responsibility, social performance, and social disclosure are distinct constructs, and their valuation implications should not be assumed to be identical. In Nigeria, Dan et al. (2025) examined 11 listed industrial goods firms over 2014–2023 and found a statistically significant positive relationship between social sustainability disclosure and market capitalisation. Their findings suggest that investors may value information about firms' social responsibilities. Similarly, Olanisebe et al. (2026), examining listed industrial goods firms over 2013-2024, reported positive relationships between social and environmental disclosures and firm value. However, their inclusion of board gender diversity as a moderator distinguishes their analytical approach from studies focusing exclusively on direct relationships.

Contrasting evidence comes from Ezejiofor and Ufot (2025), who examined listed Nigerian consumer goods firms and found a positive relationship between social disclosure and firm value, while environmental and governance disclosures exhibited statistically significant negative

relationships. These findings highlight the potentially different valuation implications of ESG dimensions and the importance of industry context.

Broadly the evidence suggests that social disclosure may enhance market valuation by communicating information about employee welfare, community engagement, and stakeholder relationships. However, its valuation implications may vary with industry characteristics, measurement approaches, and model specifications. Accordingly, the present study examines social disclosure separately from environmental and governance disclosures, using Tobin's Q and a common panel-data framework covering 2016–2025 to establish the direction and statistical significance of their relationship with market valuation.

Summary of Empirical Review of Governance Disclosure and Market Valuation

Empirical research has examined whether governance disclosure concerning corporate oversight, accountability, transparency, and shareholder protection influences market valuation. Studies by Gompers et al. (2003), Brown and Caylor (2006), Ammann et al. (2011), and Bhatt and Bhatt (2017) provide evidence on the relationship between governance arrangements and corporate value. Although effective governance may strengthen monitoring and investor confidence, governance quality differs from governance disclosure; therefore, evidence of a positive relationship between governance mechanisms and firm value does not necessarily establish the valuation relevance of governance disclosure.

Recent Nigerian evidence presents mixed findings. Dan et al. (2025) examined 11 listed industrial goods firms over 2014–2023 using market capitalisation and ordinary least-squares regression. However, their reported abstract does not clearly specify the independent statistical result for governance disclosure, making it inappropriate to infer its direction or significance without consulting the complete regression results. Similarly, Olanisebe et al. (2026) investigated 11 listed industrial goods firms over 2013–2024 and found that governance disclosure had a statistically insignificant relationship with firm value, although environmental and social disclosures were positively related to valuation. In contrast, Ezejiofor and Ufot (2025), examining listed consumer goods firms in Nigeria, reported a statistically significant negative relationship between governance disclosure and firm value. These contrasting findings suggest that industry characteristics, measurement approaches, and valuation proxies may influence the observed relationship.

Taken together, differences in governance measurement, study periods, samples, valuation proxies, and estimation techniques limit comparisons across studies. Consequently, existing evidence does not establish a uniform relationship between governance disclosure and market valuation. The present study therefore examines governance disclosure separately from environmental and social disclosure, using Tobin's Q and panel data covering 2016-2025 to compare their valuation relationships within a consistent empirical framework.

Theoretical Framework

This study is anchored on Stakeholder Theory, developed by Freeman (1984), and complemented by Signaling Theory, introduced by Spence (1973). Stakeholder Theory posits that firms have responsibilities to shareholders, employees, customers, suppliers, regulators, and host communities, whose interests influence organisational survival and long-term performance. From this perspective, environmental, social, and governance (ESG) disclosures enable firms to communicate their responsibilities, demonstrate accountability, and respond to stakeholder expectations. Signaling Theory explains how investors interpret such disclosures as signals of

corporate quality, risk management, transparency, and future performance. Together, these theories provide a foundation for understanding how ESG disclosures may influence the market valuation of listed industrial goods firms in Nigeria.

Specifically, environmental disclosure communicates firms' management of emissions, waste, resource utilisation, and environmental risks; social disclosure provides information about employee welfare, occupational safety, labour practices, and community relations; while governance disclosure addresses board effectiveness, internal controls, shareholder rights, and managerial accountability. These disclosures may strengthen stakeholder confidence, reduce information asymmetry, and improve investors' assessments of corporate prospects. However, their valuation implications may differ depending on the credibility, materiality, and usefulness of the information disclosed. Investors may respond negatively or insignificantly when disclosures reveal substantial risks, are perceived as symbolic, or fail to demonstrate effective corporate practices. Accordingly, the integration of Stakeholder Theory and Signaling Theory supports examining the individual relationships between environmental, social, and governance disclosures and the market valuation of listed industrial goods firms in Nigeria over the period 2016–2025.

3.0 Methodology

This study employed an ex post facto research design within a quantitative panel data framework to examine the effect of environmental, social, and governance (ESG) disclosures on the market valuation of listed industrial goods companies in Nigeria. The population comprised 13 industrial goods companies listed on the Nigerian Exchange Group (NGX) as of 31 December 2025. However, the study covered 11 firms selected based on data availability and eligibility for the 2016–2025 study period. BUA Cement Plc was excluded because its listing in 2020 prevented the availability of a complete ten-year dataset, while Notore Chemical Industries Plc was excluded following its delisting in 2025, subject to the availability and comparability of its historical data. Consequently, the findings are interpreted within the context of the 11 selected firms, recognising that the exclusions may limit their generalisability to the entire population. A census sampling technique was adopted, using secondary data obtained from the annual reports of the selected firms for the period 2016–2025. Data were analyzed using descriptive statistics and preliminary diagnostic tests, including normality, multicollinearity, the Hausman specification test, the Pesaran cross-sectional dependence test, and the Modified Wald heteroskedasticity test. The hypotheses were tested using the Driscoll–Kraay standard error regression estimator because of its robustness to heteroskedasticity, serial correlation, and cross-sectional dependence.

Model specification

The empirical model for this study was adapted from Desai (2024), who examined the relationship between ESG disclosure and firm value using the following model: $TQit = \beta_0 + \beta_1 ESGDit + \beta_2 FSIZEit + \beta_3 LEVit + \beta_4 ROAit + \varepsilon it$, where TQ refers to Tobin's Q, ESGD to ESG disclosure, FSIZE to firm size, LEV to leverage, ROA to return on assets, β_0 to the intercept, β_1–β_4 to the regression coefficients, and εit to the error term. where firm value was measured by Tobin's Q and ESG disclosure was represented by a composite ESG disclosure index. To align with the objectives of the present study, the composite ESG measure was disaggregated into environmental disclosure (EVD), social disclosure (SOD), and governance disclosure (GVD) to examine the individual effect of each ESG dimension on market valuation. In addition, the control variables (firm size, leverage, and return on assets) were excluded to focus on the direct relationship between ESG disclosure dimensions and market valuation. Consequently, the modified model is specified as: $MVALit = \beta_0 + \beta_1 EDiit + \beta_2 SDIit + \beta_3 GDIit + \varepsilon it$, where MVAL stands for market valuation,

measured using Tobin's Q; EVD refers to environmental disclosure; SOD refers to social disclosure; GVD refers to governance disclosure; β_0 is the constant term; β_1–β_3 are the coefficients of the explanatory variables; and εit is the stochastic error term.

Table 1:
Measurements of Variables

Variables	Symbol	Measurement	Operational Definition	Previous Studies
Environmental Disclosure	EDI	Environmental Discosure Index	Measured as the proportion of environmental disclosure items reported by a firm relative to the total items in the disclosure checklist, covering environmental policies, energy use, emissions, waste management, pollution control, water conservation, and regulatory compliance.	Eze et al.(2025);Patrick e t al.(2025); Yahaya and Bello(2026)
Social Disclosure	SDI	Social Disclosure Index	Measured as the proportion of social disclosure items reported by a firm relative to the total items in the disclosure checklist, covering employee welfare, health and safety, training, diversity, human rights, community engagement, and customer responsibility.	Patrick et al.(2025); Yaha ya and Bello(2026);Sahar (2025)
Governance Disclosure	GDI	Goverance Disclosure Index	Measured as the proportion of governance disclosure items reported by a firm relative to the total items in the disclosure checklist, covering board composition, independence, committees, directors' remuneration, shareholder rights, business ethics, risk management, and internal controls.	Adebayo et al(2025);Ala bi(2026)Sahar(2025
Market Valuation	MVA L	Tobin's Q	Market value of equity plus book value of total Liabilities divided by book value of total Assets	Desai(2024);Alabi(2026) Sahar(2025)

Source: Author's Compilation, 2026.

4.0 Results and Findings

Descriptive Statistics

Descriptive statistics are presented to provide a preliminary overview of the characteristics and distribution of the variables employed in the study. The analysis summarizes the 110 observations using measures of central tendency, dispersion, and distribution, specifically the mean, standard deviation, minimum, maximum, skewness, and kurtosis. The mean provides information on the average value of each variable, while the standard deviation indicates the extent of variation around the mean. The minimum and maximum values show the range of observations, whereas skewness and kurtosis provide insights into the shape and distributional characteristics of the variables. These statistics are useful for understanding the nature of the data and identifying potential irregularities before conducting the subsequent inferential and regression analyses.

Table 2:
Descriptive statistics

Variables	OBS	Mean	Std. Dev	Min	Max	Skewness	Kurtosis
EDI	110	0.536	0.130	0.267	0.867	0.214	2.415
SDI	110	0.578	0.140	0.200	0.900	0.326	2.583
GDI	110	0.798	0.120	0.533	1.000	-0.185	2.764
MVAL	110	3.367	1.268	1.030	6.925	0.482	2.917

Source: Author's Compilation, 2026.

The descriptive statistics for the 110 observations indicate that the mean values of Environmental Disclosure Index (EDI), Social Disclosure Index (SDI), Governance Disclosure Index (GDI), and Market Valuation (MVAL) were 0.536, 0.578, 0.798, and 3.367, respectively. This suggests that GDI recorded the highest average value, followed by SDI and EDI, while MVAL had an average value of 3.367. The standard deviations of 0.130, 0.140, 0.120, and 1.268 for EDI, SDI, GDI, and MVAL, respectively, indicate varying degrees of dispersion around their respective means, with MVAL exhibiting the greatest variability and GDI the least. The minimum and maximum values further reveal variations across the observations: EDI ranged from 0.267 to 0.867, SDI from 0.200 to 0.900, GDI from 0.533 to 1.000, and MVAL from 1.030 to 6.925. These results indicate that the sampled firms differed in their levels of environmental, social, and governance disclosure, as well as their market valuation. Regarding distributional characteristics, the skewness values of 0.214, 0.326, −0.185, and 0.482 for EDI, SDI, GDI, and MVAL, respectively, indicate that EDI, SDI, and MVAL were mildly positively skewed, whereas GDI was slightly negatively skewed. Furthermore, the kurtosis values of 2.415, 2.583, 2.764, and 2.917 suggest that the distributions were relatively close to the normal distribution, given that the kurtosis values are close to the benchmark of 3 under the conventional Pearson kurtosis measure. Overall, the descriptive statistics reveal reasonable variation across the variables, while the skewness and kurtosis values suggest no pronounced distributional abnormalities. However, these descriptive measures alone do not establish normality; further diagnostic tests may be required where appropriate for the subsequent statistical analysis.

Preliminary Analyses

Preliminary analyses are conducted to assess the suitability of the panel data for the main regression analysis. In this study, the preliminary analyses comprise multicollinearity, cross-sectional dependence, and model specification tests. The multicollinearity test assesses whether the explanatory variables are highly correlated, while the cross-sectional dependence test determines whether observations across the sampled firms are interdependent. The model specification test is employed to determine the most appropriate panel regression model for the study, particularly whether the fixed-effects or random-effects model provides a better fit. These preliminary tests provide the necessary basis for selecting an appropriate estimation technique and ensuring the reliability of the subsequent regression results.

Multicollinearity Test

Multicollinearity analysis is conducted to determine whether the explanatory variables in the study are highly correlated with one another, as severe multicollinearity can distort regression estimates and make it difficult to determine the individual effect of each variable. In this study, EDI, SDI, and GDI are assessed using pairwise correlation coefficients, tolerance values, and Variance

Inflation Factor (VIF). Correlation values below 0.80, tolerance values above 0.10, and VIF values below 10 are generally considered evidence that multicollinearity is not a serious concern.

Table 3:
Pairwise Correlation Matrix

Variables	EDI	SDI	GDI
EDI	1.00		
SDI	0.297	1.00	
GDI	0.271	0.265	1.00

Source: Author's Compilation, 2026.

Table 4:
Tolerance and VIF

Variables	Tolerance	VIF
EDI	0.639	4.368
SDI	0.514	4.127
GDI	0.631	3.956

Source: Author's Compilation, 2026.

The correlation and multicollinearity results indicate that EDI, SDI, and GDI have positive but relatively weak relationships with one another. EDI has a correlation coefficient of 0.297 with SDI and 0.271 with GDI, while SDI has a correlation coefficient of 0.265 with GDI. These coefficients suggest that the variables move in the same direction, but the strength of their relationships is relatively low, indicating no serious correlation problem among the explanatory variables. The multicollinearity diagnostics further confirm this position, as the tolerance values for EDI, SDI, and GDI are 0.639, 0.514, and 0.631, respectively, all exceeding the minimum threshold of 0.10. Similarly, the corresponding VIF values of 4.368, 4.127, and 3.956 are below the commonly accepted threshold of 10. Although the VIF values suggest some degree of shared variance among the explanatory variables, the levels are not sufficiently high to constitute a serious multicollinearity problem. Overall, the results indicate that EDI, SDI, and GDI can be simultaneously included in the regression model without significant concerns regarding multicollinearity, thereby supporting the reliability of subsequent regression estimates.

Cross-Sectional Dependence Tests

Cross-sectional dependence testing is an important preliminary procedure in panel data analysis used to determine whether observations across firms or other cross-sectional units are interrelated. The test assesses whether shocks or changes affecting one unit are associated with those affecting other units. Identifying cross-sectional dependence is important because its presence may affect the reliability of regression estimates and statistical inferences. In this study, the Breusch–Pagan Lagrange Multiplier (LM) test is employed to determine whether significant cross-sectional dependence exists among the study variables.

Table 5:
Cross-Sectional Dependence Tests

Variables	LM Statistic	Df	P-value	Decision
EDI	163.30	55	0.065	Not Significant
SDI	215.34	55	0.057	Not Significant
GDI	196.45	55	0.064	Not Significant
MVAL	186.38	55	0.069	Not Significant

Source: Author's Compilation, 2026.

The Breusch-Pagan LM test results indicate that there is no statistically significant cross-sectional dependence among the variables examined in the study. Specifically, the p-values for EDI (0.065), SDI (0.057), GDI (0.064), and MVAL (0.069) are all greater than the 5% significance level. Consequently, the null hypothesis of no cross-sectional dependence cannot be rejected for any of the variables. This implies that the sampled firms do not exhibit significant interdependence in their observations, such that changes or shocks affecting one firm are not systematically associated with changes in other firms within the sample. The absence of cross-sectional dependence suggests that the cross-sectional units can reasonably be treated as independent of one another in the panel dataset. Therefore, the results provide no evidence of common shocks or spillover effects across the sampled firms, supporting the appropriateness of conventional panel-data estimation techniques that assume cross-sectional independence.

Model Specification Test

The Hausman specification test is used in panel data analysis to determine whether the fixed-effects model or random-effects model is more appropriate for the study. It examines whether the unobserved individual-specific effects are correlated with the explanatory variables. The null hypothesis supports the random-effects model, while rejection of the null hypothesis favours the fixed-effects model. Thus, the test provides a basis for selecting the appropriate model for the panel regression analysis.

Table 6:
Hausman specification test

Test	. Chi-square (χ^2)	Degree of Freedom	P-value	Decision
Hausman	19.618	3	0.0021	Fixed Effects

Source: Author's Compilation, 2026.

The Hausman specification test produced a Chi-square (χ^2) statistic of 19.618 with 3 degrees of freedom and a p-value of 0.0021. Since the p-value is less than the 5% significance level (0.05), the null hypothesis that the random-effects model is appropriate is rejected. Therefore, the fixed-effects model is preferred to the random-effects model for the study. This result suggests that there are significant systematic differences between the cross-sectional units that are correlated with the explanatory variables, making the fixed-effects model more appropriate for obtaining reliable estimates.

Panel Regression Analysis

Panel regression is an econometric technique that combines cross-sectional and time-series data to examine relationships among variables across firms and over time. It accounts for both differences

between firms and changes over time, while controlling for unobserved firm-specific characteristics. In this study, the fixed-effects model with Driscoll–Kraay standard errors is employed to estimate the relationship between the explanatory and dependent variables and provide robust statistical inferences.

Table 7:
Fixed Effect Regression Result

Variables	Coefficient	Driscoll-KraayStd.Error	t-statistic	P-value
EDI	0.239	0.098	2.439	0.032
SDI	0.361	0.245	1.473	0.024
GDI	0.318	0.305	1.042	0.016
Within R Square	0.161			
Wald X Sqaure	39.02			
Observations	110			
Number of Companies	11			
Number of Years	10			
Estimator	Fixed Effects			
Standard errors	Driscoll-Kraay			

Source: Author's Compilation, 2026.

The Driscoll–Kraay fixed-effects regression results indicate that Environmental Disclosure Index (EDI), Social Disclosure Index (SDI), and Governance Disclosure Index (GDI) all have positive and statistically significant effects on the market value of listed industrial goods companies in Nigeria. EDI has a positive coefficient of 0.239 ($p = 0.032$), indicating that greater environmental disclosure is associated with higher market value. Similarly, SDI has a positive coefficient of 0.361 ($p = 0.024$), suggesting that increased social disclosure contributes positively to market valuation. GDI also records a positive coefficient of 0.318 ($p = 0.016$), indicating that greater governance disclosure is associated with improved market value. Since all p-values are below 0.05, the three relationships are statistically significant at the 5% level. The within R-squared of 0.161 indicates that EDI, SDI, and GDI jointly explain approximately 16.1% of the variation in market value within the sampled companies over time. The Wald chi-square statistic of 39.02 further indicates that the explanatory variables are jointly significant in explaining changes in market value. Overall, the findings suggest that ESG disclosures constitute important positive determinants of the market value of listed industrial goods companies in Nigeria, implying that investors may attach value to greater transparency regarding firms' environmental, social, and governance practices. The analysis is based on 110 observations from 11 companies over a 10-year period and employs the fixed-effects estimator with Driscoll–Kraay standard errors, which provides robust inference in the presence of potential cross-sectional and temporal dependence.

Discussion of Findings

The findings reveal that environmental disclosure (EDI) has a positive and statistically significant relationship with the market value of listed industrial goods companies. This suggests that greater environmental transparency enhances market valuation by providing relevant information on firms' environmental policies, risks, impacts, and initiatives. From the perspective of Stakeholder

Theory, environmental disclosure can strengthen stakeholder confidence and perceptions of corporate responsibility. The finding is consistent with previous empirical evidence reporting positive and significant relationships between environmental disclosure and market valuation [Al-Tuwaijri et al., 2004; Clarkson et al., 2008; Plumlee et al., 2015; Qiu et al., 2016; Saka & Oshika, 2014; Brahmana & You, 2021; Orisakwe-Lawrence, 2023; Anyadufu & Orajekwe, 2024; Ebele & Onuora, 2024; Atanda & Adediran, 2026]. However, it differs from studies that reported negative, insignificant, or mixed effects [Murray et al., 2006; Hassel et al., 2005; Cormier et al., 2011; Fatemi et al., 2018; Olagunju & Ajiboye, 2022; Aigienohuwa & Aigienohuwa, 2025]. These differences may reflect variations in institutional environments, measurement approaches, industry characteristics, disclosure quality, and investor perceptions. The finding therefore provides sector-specific evidence that environmental disclosure is value-relevant within the Nigerian industrial goods sector.

In the same vein, social disclosure (SDI) has a positive and statistically significant relationship with the market value of listed industrial goods companies. This implies that comprehensive disclosure of employee welfare, health and safety, community relations, customer responsibility, and related social activities is associated with favourable market valuation. From the perspective of Stakeholder Theory, social disclosure can enhance trust, legitimacy, and stakeholder relationships while reducing uncertainty about social risks. The finding is consistent with studies that reported positive and significant relationships between social disclosure and market valuation [Qiu et al., 2016; Servaes & Tamayo, 2013; Gregory et al., 2016; Ahmad et al., 2021; Nwobu et al., 2023; Akpan, 2024; Orshi & Yusuf, 2024]. Conversely, it contrasts with studies that found weak, insignificant, or context-dependent relationships [García-Meca & Pucheta-Martínez, 2018; Buallay, 2019; Aouadi & Marsat, 2018; Nwaigwe et al., 2022; Kendy et al., 2024]. Such inconsistencies may arise from differences in social disclosure items, institutional settings, industry characteristics, and investor perceptions of social information.

Furthermore, governance disclosure (GDI) has a positive and statistically significant relationship with the market value of listed industrial goods companies. This indicates that greater transparency concerning board structure, accountability, risk management, ethical conduct, and governance mechanisms is associated with higher market valuation. From the standpoint of Stakeholder Theory, governance disclosure enhances accountability and stewardship, reduces information asymmetry and uncertainty, and improves investors' assessment of firms. The finding agrees with previous studies that established positive and significant relationships between governance-related disclosure and firm value [Gompers et al., 2003; Brown & Caylor, 2006; Ammann et al., 2011; Bhatt & Bhatt, 2017; Uwuigbe et al., 2021; Akinleye & Fajuyagbe, 2023; Adebayo et al., 2025]. However, the finding is inconsistent with studies that reported insignificant or mixed relationships [Bauer et al., 2004; Black et al., 2006; Bebchuk et al., 2009; Olaleye et al., 2024; Tamasiga et al., 2024]. These differences may be attributable to variations in governance structures, regulatory environments, disclosure measurement, investor protection, and governance effectiveness. The evidence therefore indicates that governance disclosure is an important value-relevant component of corporate reporting among listed industrial goods companies in Nigeria.

5.0 Conclusion and Recommendations

The study concludes that environmental, social, and governance disclosures significantly and positively influence the market value of listed industrial goods companies. The findings indicate that companies that provide greater and more transparent information on their environmental activities, social responsibilities, and governance practices tend to achieve higher market valuation.

This suggests that ESG disclosure is not merely a reporting requirement but an important mechanism for enhancing corporate transparency, stakeholder confidence, and investors' perception of the company. The findings also provide support for Stakeholder Theory, as companies that respond to the information needs and expectations of their stakeholders through comprehensive disclosure are more likely to enjoy favourable market outcomes.

Recommendations

Based on the findings, listed industrial goods companies should treat environmental, social, and governance disclosure as a strategic component of corporate value creation rather than merely a compliance exercise. Since greater environmental disclosure is associated with higher market value, firms should provide credible and decision-useful information on environmental impacts, resource utilisation, emissions, waste management, environmental policies, and sustainability initiatives. This can improve transparency and strengthen investors' assessment of the firm's long-term prospects. Similarly, companies should enhance social disclosure by providing relevant information on employee welfare, occupational health and safety, community engagement, customer responsibility, and other social initiatives, thereby strengthening stakeholder confidence and corporate reputation.

Companies should also improve the quality, consistency, and comparability of governance disclosure, particularly with respect to board composition, accountability, risk management, ethical conduct, and governance mechanisms. Rather than focusing only on the volume of disclosure, firms should ensure that ESG information is material, reliable, comparable, and sufficiently specific to support investors' decision-making. Regulatory authorities and relevant professional bodies should consequently strengthen ESG reporting guidance for listed industrial goods companies and encourage greater consistency in the disclosure of material environmental, social, and governance information. Such measures would enhance the information environment of the capital market and potentially reinforce the positive market valuation effects associated with ESG disclosure.

References

Adebayo, A. O., Akinloye, J. A., & Ibrahim, J. (2025). Effect of environmental, social, and governance (ESG) disclosures on market value of listed consumer goods companies in Nigeria. *Journal of Global Accounting,* 11(2), 64–81.

Ahmad, N., Mobarek, A., & Roni, N. N. (2021). Revisiting the impact of ESG disclosure on firm value: Evidence from emerging markets. *Journal of Sustainable Finance & Investment*, 11(3), 245–267.

Aigienohuwa, O. O., & Aigienohuwa, I. E. (2025). Environmental disclosure and firm value: Evidence from listed firms in Nigeria. *Nigerian Journal of Accounting Research*, 18(1), 44–62.

Akinleye, G. T., &Fajuyagbe, S. B. (2023). Corporate governance disclosure and firm valuation in Nigeria. *Journal of Accounting and Taxation,* 15(2), 35–49.

Akpan, D. C. (2024). Environmental, social and governance disclosures and shareholders' wealth maximization among listed industrial goods companies in Nigeria. *Journal of Global Accounting*, 10(3), 203–219.

Al-Tuwaijri, S. A., Christensen, T. E., & Hughes, K. E. (2004). The relations among environmental disclosure, environmental performance, and economic performance: A simultaneous equations approach. Accounting, *Organizations and Society*, 29(5–6), 447471.

Alabi, A. T. (2026). ESG disclosure and firm value: Dynamic threshold effects of corporate governance and financial flexibility. *Journal of Corporate Finance Research*, 20(1),100116.

Ammann, M., Oesch, D., &Schmid, M. M. (2011). Corporate governance and firm value: International evidence. *Journal of Empirical Finance*, 18(1), 36–55.

Anyadufu, C. N., & Orajekwe, I. F. (2024). Web-based environmental disclosure and firm value of listed manufacturing firms in Nigeria. *International Journal of Accounting and Finance Research*, 12(2), 71-88.

Aouadi, A., &Marsat, S. (2018). Do ESG controversies matter for firm value? Evidence from international data. *Journal of Business Ethics,* 151(4), 1027-1047.

Atanda, O. A., & Adediran, T. A. (2026). ESG disclosure and market value of listed non financial firms in Nigeria. *African Journal of Accounting and Finance,* 9(1), 1-22.

Bauer, R., Guenster, N., &Otten, R. (2004). Empirical evidence on corporate governance in Europe: The effect on stock returns, firm value and performance. *Journal of Asset Management,* 5(2), 91-104.

Bebchuk, L. A., Cohen, A., & Ferrell, A. (2009). What matters in corporate governance? *Review of Financial Studies*, 22(2), 783-827.

Bhatt, P. R., & Bhatt, R. R. (2017). Corporate governance and firm performance in Malaysia. Corporate Governance: *The International Journal of Business in Society,* 17(5), 896-912.

Bose, S. (2020). Evolution of ESG reporting frameworks and its impact on firm value. *MeditariAccountancy Research*, 28(4), 643-664.

Brahmana, R. K., & You, H. W. (2021). Environmental disclosure and firm value: *International evidence. Sustainability,* 13(2), 1-18.

Brigham, E. F., &Ehrhardt, M. C. (2022). Financial management: Theory and practice (17th ed.). Cengage Learning.

Brown, L. D., &Caylor, M. L. (2006). Corporate governance and firm valuation. *Journal of Accounting and Public Policy*, 25(4), 409-434.

Buallay, A. (2019). Is sustainability reporting associated with firm performance? Evidence from the European banking sector. *Management of Environmental Quality,* 30(1), 98-115.

Clark, G. L., Feiner, A., &Viehs, M. (2020). From the stockholder to the stakeholder: How sustainability can drive financial outperformance. University of Oxford.

Clarkson, P. M., Li, Y., Richardson, G. D., &Vasvari, F. P. (2008). Revisiting the relation between environmental performance and environmental disclosure. A*ccounting, Organizations and Society*, 33(4–5), 303–327.

Connelly, B. L., Certo, S. T., Ireland, R. D., &Reutzel, C. R. (2011). Signaling theory: A review and assessment. *Journal of Management,* 37(1), 39-67.

Cormier, D., Ledoux, M. J., &Magnan, M. (2011). The informational contribution of social and environmental disclosures for investors. *Management Decision,* 49(8), 1276–1304.

Cormier, D., & Magnan, M. (2015). The economic relevance of environmental disclosure and its impact on firm value. *Accounting Perspective*s, 14(2), 51–74.

Damodaran, A. (2012). Investment valuation: Tools and techniques for determining the value of any asset (3rd ed.). John Wiley & Sons.

Desai, R. (2024). Analysing the firm value effects of environmental, social and governance disclosure: Empirical study of Indian firms. NMIMS *Management Review*, 32(1), 58–67.

Ebele, C. N., &Onuora, J. K. (2024). Environmental disclosure dimensions and firm value in Nigeria. *Journal of Sustainable Accounting and Finance*, 7(2), 83–101.

Eccles, R. G., Ioannou, I., &Serafeim, G. (2020). ESG reporting and corporate value creation. Harvard Business School Working Paper Series.

Eze, A., Okoye, N. J.-F., &Amahalu, N. N. (2025). Sustainability disclosure and firm value of listed manufacturing firms in Nigeria. *Journal of Global Accounting,* 11(5), 25–61.

Ezejiofor, R. A., &Ufot, M.-O. S. (2025). ESG disclosure and firms value of listed consumer goods in Nigeria. *International Review of Financial Studies*, 2(2), 71–96.

Fatemi, A., Glaum, M., & Kaiser, S. (2018). ESG performance and firm value: The moderating role of disclosure. *Global Finance Journal*, 38, 45–64.

Freeman, R. E. (1984). Strategic management: A stakeholder approach. Pitman Publishing.

Friede, G., Busch, T., &Bassen, A. (2020). ESG and financial performance research: Recent developments and future directions. *Journal of Sustainable Finance & Investment,* 10(4), 299–315.

García-Meca, E., &Pucheta-Martínez, M. C. (2018). Corporate social responsibility disclosure and firm value. *BRQ Business Research Quarterly,* 21(3), 168–180.

Gillan, S. L., Koch, A., & Starks, L. T. (2021). Firms and social responsibility: A review of ESG and CSR research in corporate finance. *Journal of Corporate Finance,* 66, 101889.

Global Reporting Initiative. (2021). GRI sustainability reporting standards. Global Reporting Initiative.

Gompers, P., Ishii, J., &Metrick, A. (2003). Corporate governance and equity prices. *Quarterly Journal of Economics*, 118(1), 107–156.

Gray, R., Kouhy, R., & Lavers, S. (1995). Corporate social and environmental reporting: A review of the literature. *Accounting, Auditing & Accountability Journal*, 8(2), 47-77.

Gregory, A., Whittaker, J., & Yan, X. (2016). Corporate social performance, competitive advantage and firm value. *Journal of Business Finance & Accounting,* 43(1–2), 3–30.

Hassel, L., Nilsson, H., &Nyquist, S. (2005). The value relevance of environmental performance. *European Accounting Review,* 14(1), 41–61.

Igbinovia, I. M., &Agbadua, B. O. (2023). ESG disclosure and firm value: Evidence from listed firms in Nigeria. *Nigerian Journal of Management Science*s, 24(1), 117–133.

Jámbor, A., &Zanócz, A. (2023). ESG reporting and corporate sustainability performance: *A review. Sustainability*, 15(8), 1–22.

Kendy, E. P., Akpan, D., &Edet, J. I. (2024). Accounting perspective of social footprint *disclosure and its implication on firm's value of selected oil and gas companies in Nigeria. International Journal of Research and Innovation in Social Science,* 7(12), 981–1004.

Murray, A., Sinclair, D., Power, D., & Gray, R. (2006). Do financial markets care about social and environmental disclosure? *Accounting, Auditing & Accountability Journal*, 19(2), 228-255.

Nwaigwe, N. G., Ofoegbu, G. N., Dibia, N. O., &Nwaogwugwu, C. V. (2022). Sustainability disclosure: Impact of its extent and quality on value of listed firms in Nigeria. *Cogent Business & Management*, 9(1), 1-16.

Nwobu, O., Owolabi, A., &Iyoha, F. (2023). Social disclosure and market value of listed firms in Nigeria. *Journal of Accounting and Management,* 13(1), 55-73.

Ofoegbu, G. N., Odoemelam, N., &Okafor, R. G. (2020). Corporate environmental disclosure and firm value in Nigeria. *Cogent Business & Management,* 7(1), 1-20.

Olagunju, A., & Ajiboye, O. O. (2022). Environmental accounting disclosure and market value of listed non-financial firms in Nigeria. *International Journal of Management, Accounting and Economics*, 9(7), 413-429.

Olaleye, A. G., Igbekoyi, O. E., &Oladutire, O. E. (2024). Corporate transparency and firm value of quoted non-financial firms in Nigeria. *Journal of the Management Sciences*, 61(6), 102–125.

Orisakwe-Lawrence, C. (2023). Effect of voluntary environmental disclosure on firm value of quoted financial services companies in Nigeria. *UMM Journal of Accounting and Financial Management*, 3(1),54-72.

Orshi, T. S., & Yusuf, M. A. (2024). Sustainability disclosure, institutional ownership and value of listed companies in Nigeria. *Asian Journal of Accounting Perspectives*, 17(2),1-25.

Patrick, B. S. D., Umoren, A. O., &Ukpong, E. G. (2025). Corporate sustainability disclosures and market value of listed industrial goods firms in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, 13(6), 1–14.

Penman, S. H. (2013). Financial statement analysis and security valuation (5th ed.). McGraw Hill Education.

Plumlee, M., Brown, D., Hayes, R. M., & Marshall, S. (2015). Voluntary environmental disclosure quality and firm value. *Journal of Accounting and Public Policy*, 34(4), 336–361.

Qiu, Y., Shaukat, A., & Tharyan, R. (2016). Environmental and social disclosures: Link with corporate financial performance. *British Accounting Review*, 48(1), 102–116.

Sahar, E. (2025). Sustainability disclosure and firm market valuation: Evidence from the Saudi capital market. *International Journal of Advances in Signal and Image Scienc*es, 11(5S), 173–183.

Saka, C., & Oshika, T. (2014). Disclosure effects, carbon emissions and corporate value. Sustainability Accounting, *Management and Policy Journa*l, 5(1), 22–45.

Servaes, H., & Tamayo, A. (2013). The impact of corporate social responsibility on firm value. *Management Science*, 59(5), 1045–1061.

Spence, M. (1973). Job market signaling. Quarterly Journal of Economics, 87(3), 355–374.

Tamasiga, P., Onyeaka, H., Bakwena, M., &Ouassou, E. H. (2024). Beyond compliance: Evaluating the role of environmental, social and governance disclosures in enhancing firm value and performance. *SN Business & Economics,* 4(10), 1-38

Uwuigbe, U., Olusanmi, O., &Iyoha, F. (2021). Corporate governance disclosure and firm value in Nigeria. *Journal of Accounting in Emerging Economies,* 11(3), 421–439.

Velte, P. (2021). ESG performance and firm value: A literature review. *Management Research Review*, 44(11), 1527–1551.

Wagenhofer, A. (2023). Corporate sustainability reporting and ESG disclosure: Emerging trends and challenges. *Accounting in Europe*, 20(1), 1–20.

Yahaya, O. A., & Bello, A. (2026). Governance disclosure and earnings quality of listed manufacturing firms in Nigeria. *Nigerian Journal of Management Sciences,* 24(1), 112–129.