EFFECT OF SUSTAINABILITY REPORTING ON THE VALUE RELEVANCE OF QUOTED FIRMS IN NIGERIA

Fatima Opeyemi Afolabi
Mubaraq Sanni
Saka Tunde Abdulsalam

Department of Accounting and Finance
Faculty of Management and Social Sciences
Kwara State University, Malete, Nigeria

OLUSEGUN OPEYEMI ONI
Agricultural and Rural Management Training Institute
Ilorin, Kwara State, Nigeria
segunooni@gmail.com

***Corresponding author:** fatimaafolabi6@gmail.com
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Abstract

Despite the growing adoption of sustainability reporting, empirical evidence on its effect on the value relevance of firms remains inconclusive, particularly in emerging economies such as Nigeria. This study examines the effect of Sustainable reporting on the value relevance of quoted companies in Nigeria. The study adopted an ex post facto research design and utilised panel data obtained from 109 quoted companies listed on the Nigerian Exchange Group covering the period 2010–2024. The sample was selected from a population of 150 listed firms using the Yamane (1967) sample size determination technique and proportionate stratified random sampling. Fixed Effects regression analysis, selected based on the Hausman specification test, was employed to account for unobserved firm-specific heterogeneity. Sustainability reporting was operationalised using the three core dimensions of Environmental, Social, and Governance (ESG) reporting, while value relevance was measured using Market Value of Equity (MVE), the Price-to-Earnings (P/E) Ratio, and Tobin's Q. The findings reveal that environmental reporting has a positive and statistically significant effect on Market Value of Equity ($\beta = 0.245$, $p = 0.004$), Tobin's Q ($\beta = 0.198$, $p = 0.009$), and the Price-to-Earnings Ratio ($\beta = 0.156$, $p = 0.035$). Social reporting also exerts a positive and significant effect on Market Value of Equity ($\beta = 0.288$, $p = 0.005$) and Tobin's Q ($\beta = 0.312$, $p = 0.001$), but its effect on the Price-to-Earnings Ratio is positive and statistically insignificant ($\beta = 0.145$, $p = 0.548$). Governance reporting positively and significantly influences Market Value of Equity ($\beta = 0.310$, $p = 0.002$) and the Price-to-Earnings Ratio ($\beta = 0.458$, $p < 0.001$), while its effect on Tobin's Q is positive but statistically insignificant ($\beta = 0.185$, $p = 0.242$). The study concludes that ESG reporting constitutes an important source of value-relevant information in the Nigerian capital market, although the effects of individual ESG dimensions vary across alternative measures of firm value. The study recommends that quoted companies should strengthen the quality and credibility of environmental, social, and governance disclosures by adopting internationally recognised reporting frameworks, while regulatory authorities should enhance ESG disclosure requirements to improve the transparency, comparability, and decision usefulness of sustainability reports.

Keywords: Sustainability reporting, Environmental Reporting, Social Reporting, Governance Reporting, Value Relevance, Market Value of Equity, Tobin's Q, Price-to-Earnings Ratio, Nigerian Listed Firms.

1.0 Introduction

Sustainability reporting has become an important dimension of corporate reporting, reflecting the growing demand for transparency, accountability, and sustainable business practices. Unlike

traditional financial reporting, which primarily communicates a firm's financial performance and position, sustainability reporting provides information on environmental stewardship, social responsibility, and governance practices that influence an organization's long-term sustainability and value creation. Environmental reporting focuses on issues such as carbon emissions, energy consumption, waste management, and environmental conservation; social reporting addresses employee welfare, community development, human rights, diversity, and customer relations; while governance reporting provides information on board structure, executive remuneration, risk management, ethical conduct, and internal control systems. Collectively, these environmental, social, and governance (ESG) disclosures provide stakeholders with a more comprehensive understanding of a firm's overall performance beyond conventional financial indicators (GRI, 2021; IFRS Foundation, 2023; Narula et al., 2024). As investors increasingly incorporate ESG information into their investment decisions, the value relevance of sustainability reporting has become an important issue in accounting and finance research (Rahat & Nguyen, 2024; Tsang et al., 2021).

The growing importance of ESG reporting has been driven by rising stakeholder expectations and the emergence of global sustainability reporting frameworks. Over the past two decades, several international initiatives, including the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), the International Integrated Reporting Council (IIRC), and, more recently, the International Sustainability Standards Board (ISSB), have established principles and standards for reporting sustainability-related information (GRI, 2021; IFRS Foundation, 2023). These frameworks encourage organisations to disclose information relating to environmental performance, social responsibility, and governance practices in a consistent and comparable manner, enabling investors to evaluate both financial and non-financial risks and opportunities. Empirical evidence suggests that high-quality ESG disclosures improve corporate transparency, reduce information asymmetry, strengthen stakeholder confidence, and enhance firm valuation by providing decision-useful information to investors (Clarkson, 2020; Rahat & Nguyen, 2024; Narula et al., 2024).

Although ESG reporting has gained considerable acceptance globally, its adoption remains uneven across developing economies owing to weak regulatory enforcement, limited institutional capacity, and varying levels of corporate governance. While countries such as South Africa and India have strengthened sustainability reporting through regulatory reforms and mandatory disclosure requirements, many emerging economies continue to experience inconsistencies in the quality and comparability of ESG disclosures (Narula et al., 2024; Rahat & Nguyen, 2024). In many developing countries, sustainability reporting is still largely voluntary, resulting in significant variations in disclosure practices across firms and industries, and thereby limiting the effectiveness of ESG information in enhancing market efficiency and firm valuation.

In Nigeria, ESG reporting has received increasing attention following regulatory efforts to improve corporate transparency and align corporate reporting with international sustainability reporting standards. Regulatory agencies, including the Financial Reporting Council of Nigeria (FRCN), the Securities and Exchange Commission (SEC), and the Nigerian Exchange Group (NGX), have introduced sustainability reporting guidelines aimed at encouraging listed companies to provide more comprehensive environmental, social, and governance disclosures (Financial Reporting Council of Nigeria, 2023; NGX RegCo, 2023). Despite these initiatives, the

quality and extent of ESG reporting among quoted companies remain relatively low compared with global standards. Evidence indicates that environmental reporting declined by approximately 7% between 2020 and 2022, while only about half of listed firms had adopted sustainability reporting practices by 2023 (KPMG, 2022; NGX RegCo, 2023). Similarly, only 34% of Nigerian firms provided detailed social disclosures in 2023, whereas compliance with governance reporting requirements remained at approximately 41%, reflecting persistent weaknesses in board diversity, executive compensation disclosure, and risk reporting (PwC, 2023). These deficiencies contribute to information asymmetry, weaken investor confidence, and may reduce the ability of ESG information to explain variations in firm value within the Nigerian capital market.These weaknesses have important implications for the Nigerian capital market, where investors increasingly rely on both financial and non-financial information for valuation decisions. Consequently, inconsistent and low-quality ESG disclosures may reduce the value relevance of corporate reports and limit investors' ability to accurately assess firm performance and future prospects.

Despite the increasing recognition of ESG reporting, empirical evidence regarding its influence on the value relevance of accounting information remains inconclusive, particularly in emerging economies. While some studies report that environmental, social, and governance disclosures enhance firm value by improving transparency and reducing perceived investment risk, others suggest that the associated reporting costs and the potential disclosure of future environmental or governance liabilities may adversely affect market valuation (Clarkson, 2020; Tsang et al., 2021; Narula et al., 2024). Furthermore, most existing studies have examined environmental, social, or governance reporting separately, with limited evidence on their combined influence on the value relevance of quoted companies in Nigeria using a common sample, study period, and valuation framework. This fragmentation constrains a comprehensive understanding of how the three dimensions of ESG reporting collectively influence investors' assessment of firm value.

Against this background, this study examines the effect of sustainability reporting on the value relevance of quoted firms in Nigeria. Specifically, it investigates the effects of environmental reporting, social reporting, and governance reporting on value relevance, proxied by Market Value of Equity (MVE), Tobin's Q, and the Price-to-Earnings (P/E) ratio, using panel data from 109 quoted companies across eleven sectors of the Nigerian Exchange Group over the period 2010–2024. In addition, many previous Nigerian studies relied on relatively short study periods, smaller samples, and did not examine the combined effects of the three ESG dimensions within a unified empirical framework, thereby limiting the generalisability and robustness of their findings. By integrating the three ESG dimensions within a single valuation framework and employing multiple market-based measures of firm value, the study provides more comprehensive and robust evidence on the value relevance of sustainability reporting in the Nigerian capital market. The findings are expected to inform corporate managers, investors, regulators, and standard-setters seeking to strengthen sustainability disclosure practices in Nigeria.

Research Hypotheses

In line with the objectives of the study, the following hypotheses, stated in null form, are formulated to guide the research:

i. H_{01}: Environmental reporting has no significant effect on the value relevance of quoted firms in Nigeria.

ii. H_{02}: Social reporting has no significant effect on the value relevance of quoted firms in Nigeria.

iii. H_{03}: Governance reporting has no significant effect on the value relevance of quoted companies in Nigeria.

2.0 Literature Review

The literature review provides conceptual and empirical clarity on the key variables examined in this study by defining core concepts, outlining their dimensions, and explaining the theoretical relationships among them. This section focuses on environmental reporting, social reporting, and governance reporting as the explanatory constructs of interest and value relevance as the dependent construct, while also considering firm-specific factors that may influence this relationship. It further reviews existing empirical studies to establish the nature, direction, and consistency of the relationship between sustainability disclosure practices and firm valuation, particularly within the context of emerging economies such as Nigeria.

Non-financial Reporting Disclosure

Non-financial reporting disclosure refers to the systematic communication of information relating to a firm's environmental, social, and governance (ESG) activities, aimed at providing stakeholders with insights into corporate sustainability practices and broader accountability beyond financial performance. Mensah (2021) defines non-financial reporting as the disclosure of qualitative and quantitative information on sustainability initiatives, ethical governance, and social responsibility that enhances corporate transparency and long-term accountability.

According to Odunsi (2022), non-financial reporting plays a critical role in highlighting value creation processes that are not captured by traditional financial metrics. Stakeholders, including investors, regulators, and civil society organisations, use such information to evaluate how firms address environmental risks, social obligations, and governance standards. The importance of non-financial reporting has been reinforced by global frameworks such as the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB), which promote standardised ESG disclosures (Ejiofor, 2023). The ESG framework has been widely adopted in empirical studies to assess the comprehensiveness of corporate disclosures and their implications for firm performance and market valuation (Zhang & Park, 2022; Aluko & Bello, 2021). This study focuses on the environmental, social, and governance components of this framework as the dimensions of sustainability reporting under investigation. In this study, sustainability reporting is used as the broad concept referring to the disclosure of environmental, social, and governance (ESG) information. The terms "ESG reporting" and "non-financial reporting" are used where appropriate to reflect terminology adopted in the literature; however, all three terms refer to corporate disclosures beyond traditional financial reporting.

Environmental Reporting

Environmental reporting focuses on how firms manage their ecological footprint, including emissions, resource usage, waste management, and sustainability initiatives. Danladi (2024) notes that effective environmental disclosure enhances stakeholder trust, particularly in environmentally sensitive industries. Environmental reporting is often guided by frameworks such as the GRI environmental standards and captures issues such as carbon emissions, energy consumption, biodiversity impact, and compliance with environmental regulation (Ijaiya, 2023; Olatunji, 2024).

Obidike (2021) conceptualises environmental reporting from a stakeholder-based perspective, arguing that it serves as a mechanism through which firms respond to growing public concern about ecological sustainability while simultaneously seeking to protect their corporate reputation. Okonkwo and Musa (2023) similarly note that environmental disclosure enhances market legitimacy, particularly for firms operating in high-risk or resource-intensive industries. Accordingly, this study conceptualises environmental reporting as the disclosure of information relating to a firm's environmental impact, resource utilisation, and sustainability initiatives, measured using a GRI-based environmental disclosure index.

Social Reporting

Social reporting refers to the disclosure of information concerning a firm's interactions with employees, communities, customers, suppliers, and other stakeholders, with the aim of demonstrating its commitment to ethical practices, human capital development, and societal well-being. Ogundele (2021) defines social reporting as the systematic communication of corporate policies, programmes, and performance outcomes related to social responsibilities and stakeholder relationships. According to Hassan (2023), social reporting has gained prominence as stakeholders increasingly evaluate firms not only on financial performance but also on their contributions to social welfare and equity. Key elements of social reporting include employee welfare, health and safety practices, diversity and inclusion, human rights protection, training and development, and community engagement initiatives.

Social reporting is often embedded within broader sustainability or corporate social responsibility reports and guided by frameworks such as the GRI Social Standards and the United Nations Global Compact. Nwachukwu and Etim (2022) argue that effective social reporting enhances corporate legitimacy and strengthens relationships with stakeholders. Bello and Yakubu (2020) note that firms that actively communicate their social initiatives are more likely to maintain long-term stakeholder relationships, while Okafor and Egbunike (2023) emphasise its role as a reputational safeguard, particularly in environments characterised by socio-economic challenges. Consistent with the literature, this study conceptualises social reporting as a key dimension of non-financial disclosure that captures how firms manage social responsibilities related to human capital, ethical conduct, and community engagement, measured using a total GRI social disclosure index.

Governance Reporting

Governance reporting refers to the disclosure of information relating to a firm's governance structures, board practices, internal controls, executive compensation, risk management, and ethical standards, with the objective of promoting transparency, accountability, and investor confidence. Akintunde et al. (2024) describe governance reporting as a mechanism through

which organisations demonstrate their commitment to ethical leadership, regulatory compliance, and sound corporate governance. Typical governance disclosures include board composition, audit committee independence, shareholders' rights, executive remuneration, and risk oversight mechanisms (Abdullahi, 2022).

The increasing importance of governance reporting has been driven by global corporate failures and financial scandals that exposed weaknesses in corporate oversight and accountability. Consequently, regulatory frameworks such as the OECD Principles of Corporate Governance and the Nigerian Code of Corporate Governance have strengthened governance disclosure requirements to enhance transparency and protect stakeholders (Akintunde et al., 2024). Empirical evidence suggests that high-quality governance reporting reduces agency problems, improves investor confidence, enhances corporate reputation, and facilitates access to capital by signalling effective leadership and sound governance practices. Accordingly, this study conceptualises governance reporting as the disclosure of information relating to a firm's governance structure, board effectiveness, internal control systems, and ethical practices, measured using a GRI-based governance disclosure index.

Empirical Studies

Environmental Reporting and Value Relevance

Empirical evidence on environmental reporting and value relevance suggests that environmental disclosures play a significant role in shaping firm valuation and investor perception across different economic contexts, although results vary depending on regulatory environments, industry characteristics, and disclosure quality. Carter and Hughes (2020) studied 250 firms listed on the London Stock Exchange between 2015 and 2019 and found a positive relationship between environmental reporting quality and firm valuation, particularly in energy-intensive industries. Johansson and Keller (2021) examined Swedish and Danish firms using Bloomberg ESG scores and found a significant positive relationship between environmental disclosures and Tobin's Q, attributed to strong regulation and investor activism. Meyer and Robinson (2023) analysed 180 German manufacturing firms and found that environmental reporting positively influenced earnings response coefficients, while Russo and Bainbridge (2021) found that environmental innovation disclosures were positively associated with market capitalisation among U.S. technology firms.

In Africa, Nwankwo and Okonkwo (2021) found a positive relationship between environmental disclosure and stock returns among Ghanaian manufacturing firms, while Mensah and Boateng (2020) found that firms in Kenya and Tanzania with more structured environmental disclosures exhibited higher P/E ratios. Within Nigeria specifically, Nzekwe and Okoye (2021) found that carbon emission reduction, waste management, and energy efficiency disclosures positively influence Tobin's Q and P/E ratio among listed oil and gas firms; Adegbite and Olajide (2022) found that environmental sustainability reporting significantly improves share price performance among manufacturing firms; Olayinka and Akinadewo (2023) found that firms complying with environmental regulations recorded higher Tobin's Q; Yusuf and Bello (2021) found that environmental risk disclosures significantly enhance value relevance; and Eze and Udeh (2024) found that consumer goods firms disclosing eco-friendly initiatives attracted long-term investors and improved market performance. Collectively, these Nigerian studies point toward a positive

association between environmental disclosure and firm valuation, though most examine narrow sectors or single valuation proxies, a gap that the present study addresses by covering eleven sectors and three valuation proxies over a fourteen-year period.

Social Reporting and Value Relevance

In developed economies, the significance of social reporting has intensified owing to rising stakeholder demands for transparency in labour practices, community engagement, human rights, and customer welfare. Fischer and Müller (2021) examined German and Austrian firms using the GRI index and found a significant association between community development initiatives and increases in Tobin's Q and P/E ratios. Reynolds and Carter (2022) studied Canadian mining and energy firms and found that disclosure of indigenous rights policies was associated with higher stock returns. Garcia and Tavares (2023) found that social investment in education and public health correlated positively with firm value among Spanish and Portuguese firms, while Smith and O'Brien (2024) found that comprehensive diversity disclosures improved investor sentiment and P/E ratios among Irish and UK firms.

In developing countries, Kusi and Agyeman (2021) found a significant positive relationship between workforce-related social disclosures and Tobin's Q among manufacturing firms in Ghana and Kenya, while Abdullahi and Bello (2022) found that social investment in health, education, and local employment significantly influenced market capitalisation among consumer goods firms in northern Africa. Uddin and Chowdhury (2023) found that transparent reporting on employee training and equality practices positively influenced price-to-earnings ratios in Pakistan and Nepal, and Dube and Ncube (2024) found that diversity and inclusion disclosures were associated with improved investor sentiment in South Africa and Zimbabwe. Within Nigeria, Adebayo and Ibrahim (2021) found a significant positive relationship between social reporting and market capitalisation among listed consumer goods companies; Okonkwo and Oyetunde (2022) found that companies reporting on gender equity, labour rights, and customer satisfaction recorded higher P/E ratios; while Owolabi and Ekwueme (2023) found that disclosures on community relations, local content, and social investment significantly influence Tobin's Q among oil and gas firms. As with the environmental reporting literature, most Nigerian studies on social reporting focus on single sectors or single valuation proxies, underscoring the need for the broader, multi-sector, multi-proxy assessment undertaken in this study.

Governance Reporting and Value Relevance

Empirical evidence on governance reporting and value relevance indicates that governance disclosures play an important role in influencing investors' perceptions and firm valuation, although findings differ across institutional settings, regulatory environments, and governance structures. Ammann, Oesch and Schmid (2011) examined listed firms across European capital markets and found that comprehensive governance disclosures relating to board independence, executive remuneration, and risk oversight significantly improved firm valuation by enhancing investor confidence. Similarly, Tsang et al. (2021) reported that firms with stronger governance reporting experienced higher market valuations because transparent governance disclosures reduced information asymmetry. In contrast, Rahat and Nguyen (2024) found that extensive governance disclosures could sometimes signal underlying governance risks and future compliance costs, thereby exerting a negative effect on firm value.

Evidence from emerging economies also suggests that governance reporting contributes to market valuation, although the magnitude of its effect depends on institutional quality and regulatory enforcement. Within Nigeria, Uwuigbe et al. (2019) found that governance disclosure significantly improved the market value of listed companies by enhancing transparency and reducing agency conflicts, and Akintunde et al. (2024) reported that firms with higher governance disclosure scores attracted greater investor confidence and recorded superior market performance. However, Adegbite (2012) argued that governance disclosures alone may not fully enhance firm valuation where governance practices are weak or disclosure quality is poor, while industry reports indicate that only about 41% of Nigerian listed companies fully complied with governance reporting standards. Most of these studies focus on specific industries, governance attributes, or single measures of firm value, providing the motivation for the present study.

The empirical literature presents mixed evidence on the relationship between sustainability reporting and firm value. While many studies report positive effects of ESG disclosures on market valuation, others find weak, insignificant, or even negative relationships. These inconsistencies may be attributed to differences in institutional environments, disclosure quality, measurement approaches, sample characteristics, and research methodologies. Consequently, the existing evidence remains inconclusive, particularly in emerging economies such as Nigeria, thereby justifying further investigation using a broader sample, multiple value relevance measures, and an integrated ESG framework.

Theoretical Framework

Because this study pursues three distinct but related objectives, it is anchored on three complementary theories: Legitimacy Theory, which underpins the environmental reporting objective; Stakeholder Theory, which underpins the social reporting objective; and Agency Theory, which underpins the governance reporting objective.

Legitimacy Theory and Environmental Reporting

Legitimacy Theory, originally introduced by Dowling and Pfeffer (1975) and further developed by Suchman (1995), explains how organisations operate within a broader social system where their survival depends on aligning with societal expectations, norms, and values. The theory posits that firms exist under a "social contract", whereby they are expected to conduct their activities in a manner acceptable to stakeholders, including investors, regulators, host communities, and the general public. Suchman (1995) further categorises legitimacy into pragmatic, moral, and cognitive dimensions, which collectively explain the motivations behind environmental disclosures and their role in sustaining corporate legitimacy.

In relation to this study, environmental reporting is viewed as a strategic tool through which firms seek to gain, maintain, or restore legitimacy. Firms, particularly those operating in environmentally sensitive industries, disclose environmental information to demonstrate compliance with regulations, reduce public scrutiny, and respond to stakeholder concerns (Deegan, 2002; O'Donovan, 2002). Legitimacy Theory also explains the link between environmental reporting and value relevance: firms that provide comprehensive and credible environmental disclosures are more likely to gain investor confidence, reduce information asymmetry, and improve market valuation (Hussien et al., 2025; Rouf & Siddique, 2024). Despite criticisms that firms may use environmental reporting for impression management or

"greenwashing" (Lyon & Maxwell, 2011), the theory remains highly relevant in explaining environmental disclosure behaviour and is accordingly adopted to underpin the first objective of this study.

Stakeholder Theory and Social Reporting

Stakeholder Theory, originally introduced by Freeman (1984), challenges the traditional shareholder-centred view that firms exist primarily to maximise profits for investors. Instead, it posits that organisations must create value for a wide range of stakeholders, including employees, customers, suppliers, communities, regulators, and investors, and that long-term success depends on effectively managing relationships with these diverse groups. Clarkson (1995) classified stakeholders into primary and secondary stakeholders, Donaldson and Preston (1995) identified descriptive, instrumental, and normative dimensions of the theory, while Mitchell, Agle and Wood (1997) proposed the Stakeholder Salience Model, which suggests that firms prioritise stakeholders based on power, legitimacy, and urgency.

Stakeholder Theory is particularly relevant to social reporting because it explains why firms disclose information on employee welfare, community engagement, and social responsibility to address stakeholder expectations and maintain positive relationships. Firms that provide comprehensive social disclosures are more likely to reduce information asymmetry, enhance the reliability of corporate information, and improve investor decision-making, thereby contributing to more accurate firm valuation (Gidage & Bhide, 2024; Hussien et al., 2025). Although criticised for lacking clear guidance for resolving conflicts among competing stakeholder interests (Jensen, 2010), Stakeholder Theory remains highly relevant in explaining social disclosure behaviour and is accordingly adopted to underpin the second objective of this study.

Agency Theory and Governance Reporting

Agency Theory, originally developed by Jensen and Meckling (1976), explains the contractual relationship between shareholders (principals) and managers (agents), where managers are entrusted with the responsibility of managing corporate resources on behalf of shareholders. The theory argues that conflicts of interest may arise because managers may pursue personal objectives that are inconsistent with shareholders' wealth maximisation. To minimise these agency conflicts, firms establish governance mechanisms such as independent boards, effective audit committees, executive accountability, ownership monitoring, and transparent disclosure practices (Jensen & Meckling, 1976; Fama & Jensen, 1983).

In relation to this study, governance reporting is viewed as a mechanism through which firms demonstrate the effectiveness of their governance structures and their commitment to transparency, accountability, and ethical leadership. Comprehensive governance disclosures relating to board composition, executive remuneration, internal controls, risk management, and shareholders' rights enable investors to assess the quality of corporate governance and reduce uncertainty in investment decisions (Abdullahi, 2022; Akintunde et al., 2024). Agency Theory therefore explains the relationship between governance reporting and value relevance by suggesting that firms with stronger governance disclosure practices are more likely to reduce agency costs, strengthen investor confidence, and enhance market valuation. Despite its narrow emphasis on shareholder interests (Donaldson & Davis, 1991), the theory remains highly

relevant in explaining governance reporting behaviour and is therefore adopted as the theoretical foundation for the third objective of this study.

Taken together, Legitimacy Theory, Stakeholder Theory, and Agency Theory offer complementary lenses for understanding why firms engage in sustainability reporting. Rather than operating independently, the three theories collectively explain how environmental legitimacy, stakeholder responsiveness, and effective corporate governance enhance the credibility and transparency of corporate disclosures. This integrated theoretical perspective suggests that comprehensive sustainability reporting reduces information asymmetry, strengthens investor and stakeholder confidence, and ultimately improves the value relevance of accounting information. Therefore, the three theories jointly provide the theoretical foundation for examining the effect of sustainability reporting on the value relevance of quoted firms in Nigeria.

Gaps in the Literature

The review of the literature indicates that although environmental reporting, social reporting, and governance reporting have individually received considerable scholarly attention, relatively few studies have examined the three dimensions of ESG reporting jointly within a single analytical framework, making it difficult to compare their relative contribution to firm value. The empirical literature also presents mixed and inconclusive findings: while several studies report that ESG disclosures positively influence firm valuation (Carter & Hughes, 2020; Johansson & Keller, 2021; Uwuigbe et al., 2019; Tsang et al., 2021), others report weak, insignificant, or even negative relationships depending on the regulatory environment, governance quality, and disclosure practices (Adegbite, 2012; Rahat & Nguyen, 2024; Narula et al., 2024). Furthermore, existing Nigerian studies are characterised by important methodological limitations, having largely focused on specific sectors and relied on a single proxy of value relevance. The present study addresses these gaps by jointly examining the effects of environmental, social, and governance reporting on value relevance, employing three complementary proxies (Market Value of Equity, Tobin's Q, and the Price-to-Earnings Ratio) and utilising panel data from 109 quoted companies across eleven sectors of the Nigerian Exchange Group over the period 2010–2024.

3.0 Methodology

This study adopts an ex-post facto research design, which is suitable for examining relationships among variables using pre-existing data without manipulation. The study relies on secondary data obtained from the audited annual reports and sustainability disclosures of quoted companies listed on the Nigerian Exchange Group (NGX). The population comprises 150 listed firms as at 31st December, 2024. Although the population of listed firms is known, not all firms satisfied the data requirements for the study. Consequently, the sample consists of 109 quoted companies selected based on the availability of complete and consistent financial and sustainability reporting data throughout the study period. To ensure broad sectoral representation, the sampled firms were drawn across the eleven sectors of the Nigerian economy using a proportionate stratified sampling approach. The study covers fifteen years from 2010 to 2024 and adopts a balanced panel data structure, which enhances statistical efficiency by combining cross-sectional and time-series observations while minimising issues such as multicollinearity and unobserved firm-specific heterogeneity (Ntim, Opong & Danbolt, 2012).

Environmental reporting is measured using a sustainability reporting index based on the Global Reporting Initiative (GRI) environmental guidelines; social reporting is measured using a total GRI social disclosure index; while governance reporting is measured using a GRI governance disclosure index. The dependent variable, value relevance, is proxied using three market-based indicators, namely Market Value of Equity (MVE), Tobin's Q, and the Price-to-Earnings (P/E) ratio, computed with the aid of share price, earnings per share (EPS), and book value per share (BVPS). Data were extracted using a structured data collection sheet to ensure consistency and reliability, and the study employs panel regression analysis to examine the effect of sustainability reporting on the value relevance of quoted companies in Nigeria. The sample apportionment across sectors is shown in Table 1.

Table 1:
Sample Size Apportionment of Quoted Companies and Selection Approach

Sector	Population	Proportionate Stratified Sampling	Sample Size
1. Agriculture	5	5/150*109	4
2. Conglomerate	6	6/150*109	4
3. Construction and Real Estate	8	8/150*109	6
4. Consumer Goods	21	21/150*109	15
5. Financial Services	47	47/150*109	34
6. Health Care	7	7/150*109	5
7. Information and Communication Technology	8	8/150*109	6
8. Industrial Goods	13	13/150*109	9
9. Natural Resources	4	4/150*109	3
10. Oil and Gas	9	9/150*109	7
11. Services	22	22/150*109	16
Total	150		109

Source: Author's Computation (2026).

Model Specification

This study adapts and extends the Ohlson (1995) valuation model to examine the effect of sustainability reporting on the value relevance of quoted companies in Nigeria. Although the Ohlson (1995) valuation model was originally developed using traditional accounting variables such as earnings and book value, recent value relevance literature recognises that investors also incorporate non-financial information into firm valuation decisions. Sustainability reporting, through its environmental, social, and governance (ESG) disclosures, provides additional

information that enhances corporate transparency, reduces information asymmetry, and signals long-term value creation. Accordingly, this study extends the Ohlson (1995) framework by incorporating ESG disclosure variables to examine whether sustainability reporting provides incremental value-relevant information beyond conventional financial measures.The original Ohlson model explains the market value of equity (MVE) as a function of book value per share and abnormal earnings per share, thereby providing a theoretical basis for assessing the value relevance of accounting information (Collins, Maydew & Weiss, 1997). To align the model with the objectives of this study, the original specification is extended by incorporating non-financial disclosure variables (environmental reporting, social reporting, and governance reporting) to capture the influence of sustainability-related information on firm valuation. In addition, firm-specific control variables (firm size, leverage, and growth) are included to account for heterogeneity across firms and to minimise potential omitted variable bias. The generalised extended Ohlson valuation model is therefore specified as follows:

$$MVE_{it} = \gamma_0 + \gamma_1 ER_{it} + \gamma_2 SR_{it} + \gamma_3 GR_{it} + \gamma_4 Size_{it} + \gamma_5 Leverage_{it} + \gamma_6 Growth_{it} + \varepsilon_{it} \quad (1)$$

To specifically address each objective and to allow value relevance to be assessed using alternative proxies, three sub-models are estimated for Market Value of Equity, Tobin's Q, and the Price-to-Earnings ratio, while controlling for firm size, leverage, and growth:

$$MVE_{it} = \gamma_0 + \gamma_1 ER_{it} + \gamma_2 SR_{it} + \gamma_3 GR_{it} + \gamma_4 Size_{it} + \gamma_5 Leverage_{it} + \gamma_6 Growth_{it} + \varepsilon_{it} \quad (2)$$

$$TQ_{it} = \gamma_0 + \gamma_1 ER_{it} + \gamma_2 SR_{it} + \gamma_3 GR_{it} + \gamma_4 Size_{it} + \gamma_5 Leverage_{it} + \gamma_6 Growth_{it} + \varepsilon_{it} \quad (3)$$

$$PER_{it} = \gamma_0 + \gamma_1 ER_{it} + \gamma_2 SR_{it} + \gamma_3 GR_{it} + \gamma_4 Size_{it} + \gamma_5 Leverage_{it} + \gamma_6 Growth_{it} + \varepsilon_{it} \quad (4)$$

Where MVE_{it}, TQ_{it}, and PER_{it} denote the Market Value of Equity, Tobin's Q, and Price-to-Earnings ratio, respectively, of firm i at time t (the alternative dependent variables representing value relevance); ER_{it}, SR_{it}, and GR_{it} are Environmental Reporting, Social Reporting, and Governance Reporting, respectively; $Size_{it}$ is firm size, measured as the logarithm of total assets; $Leverage_{it}$ is firm leverage, measured by the debt-to-equity ratio; $Growth_{it}$ is firm growth, measured by the percentage change in revenue; $\gamma_0 \ldots \gamma_6$ are the coefficients to be estimated; and ε_{it} is the stochastic error term. A priori, γ_1, γ_2, and γ_3 are expected to be positive and statistically significant in each sub-model, consistent with Legitimacy Theory, Stakeholder Theory, and Agency Theory.

Model Estimation Techniques

This study employs a panel data estimation approach to examine the effect of sustainability reporting on firm value relevance in Nigeria from 2010 to 2024. The analysis begins with descriptive statistics to summarise the dataset, followed by preliminary diagnostic tests, including normality, correlation, and multicollinearity (VIF) checks, to ensure data robustness. Stationarity is assessed using the ADF-Fisher Chi-square panel unit root test. The main estimation methods considered are Pooled Ordinary Least Squares (OLS), the Fixed Effects Model (FEM), and the Random Effects Model (REM), with selection guided by the Breusch-Pagan Lagrange Multiplier (LM) test and the Hausman test. To address potential violations of classical assumptions such as heteroscedasticity and serial correlation, post-estimation diagnostics, namely the Modified Wald test and the Wooldridge test, are conducted to ensure the

validity and reliability of the regression results across the environmental, social, and governance reporting models.

4.0 Data Presentation, Analysis and Discussion of Findings

This section presents the empirical results of the study and discusses the findings in relation to the research objectives, hypotheses, and underlying theoretical framework. The analysis is based on panel data obtained from the sampled quoted companies in Nigeria over the study period.

Descriptive Results

Table 2 presents the descriptive statistics for the value relevance proxies together with the three independent variables, Environmental Reporting (ER), Social Reporting (SR), and Governance Reporting (GR).

Table 2:
Value Relevance, Environmental Reporting, Social Reporting, and Governance Reporting

Statistic	PERATIO	TOBINSQ	MVE (₦)	ER	SR	GR
Mean	0.131	30.362	4.75E+09	0.454	0.466	0.431
Median	0.061	0.205	2.16E+08	0.533	0.583	0.467
Maximum	5.682	6988.570	4.14E+11	1.000	1.000	1.000
Minimum	-5.000	-2.779	-1.22E+09	0.000	0.000	0.000
Std. Dev.	0.472	343.422	1.93E+10	0.296	0.308	0.293
Skewness	2.489	13.041	12.576	-0.443	-0.412	-0.246
Kurtosis	42.421	194.056	220.271	1.792	1.830	1.858
Jarque-Bera	100252.0	2361100.0	3037809.0	157.049	143.528	108.351
Probability	0.000	0.000	0.000	0.000	0.000	0.000
Observations	1,524	1,524	1,524	1,681	1,681	1,681

Source: Author's Computation (2026).

Table 2 shows that the mean Market Value of Equity (MVE) is approximately ₦4.75 billion, with a wide range between the minimum (-₦1.22 billion) and maximum (₦414 billion) values, and a large standard deviation that underscores the high variability in market capitalisation among sampled firms. Tobin's Q has a mean of 30.36, though the median of 0.20 suggests the presence of outliers with very high valuation ratios, while the Price-to-Earnings ratio averages 0.13. The Jarque-Bera statistics for all three value relevance proxies are highly significant ($p = 0.000$), confirming that the data do not follow a normal distribution, a common feature of financial datasets that necessitates robust panel estimation techniques.

With respect to the non-financial variables, Environmental Reporting (ER) records a mean of 0.454, Social Reporting (SR) a mean of 0.466, and Governance Reporting (GR) a mean of 0.431, indicating that, on average, Nigerian quoted firms disclose marginally more on social matters than on environmental or governance matters, though the differences are modest. All three variables exhibit negative skewness, implying that most firms disclose slightly above the mean, with a smaller number of firms reporting very low levels of ESG information.

Table 3:
Control Variables

Statistic	Firm Size (FS)	Firm Leverage (FL)	Firm Growth (FG)
Mean	6.625	0.256	0.078
Median	6.881	0.230	0.055
Maximum	10.930	3.615	1.013
Minimum	1.837	-1.809	-0.806
Std. Dev.	1.426	0.371	0.160
Skewness	-0.776	0.316	0.391
Kurtosis	3.934	9.692	11.222
Jarque-Bera	223.006	3070.730	4635.687
Probability	0.000	0.000	0.000
Observations	1,631	1,631	1,631

Source: Author's Computation (2026).

Table 3 shows that Firm Size (FS) averages 6.62 with a standard deviation of 1.43, reflecting variation in the asset base across sampled firms. Firm Leverage (FL) has a mean of 0.26, suggesting that debt represents about a quarter of the capital structure on average, though some firms exhibit leverage as high as 3.62. Firm Growth (FG) has a mean of 0.08, ranging from -0.81 to 1.01, reflecting differing rates of expansion and contraction among firms. The Jarque-Bera statistics indicate non-normality at the 1% level for all control variables, reinforcing the need for the robust panel regression techniques adopted in this study.

Pre-Model Estimation Analysis

This section presents the preliminary diagnostic analyses, including correlation checks, multicollinearity assessments, and panel unit root tests, for the environmental, social, and governance reporting models.

Table 4
Correlation Matrix of Independent Variables

Variables	ER	SR	GR	FS	FL	FG
ER	1.000					
SR	0.441	1.000				
GR	0.496	0.484	1.000			
FS	-0.083	0.029	-0.075	1.000		
FL	0.069	0.122	0.087	0.040	1.000	
FG	-0.035	-0.054	-0.036	0.090	0.089	1.000

Source: Author's Computation (2026). ER = Environmental Reporting; SR = Social Reporting; GR = Governance Reporting; FS = Firm Size; FL = Financial Leverage; FG = Firm Growth.

Table 4 shows that the independent variables exhibit weak-to-moderate correlations, with Environmental Reporting (ER) recording a weak negative correlation with Firm Size and Firm Growth and a slight positive association with Financial Leverage. None of the correlation coefficients exceeds the conventional threshold of 0.8, indicating the absence of severe multicollinearity and confirming that each variable captures a distinct aspect of firm

characteristics or non-financial accountability, making them suitable for inclusion in the regression models.

Table 5:
Variance Inflation Factor (VIF) Results

Variable	VIF	Interpretation
Environmental Reporting (ER)	1.452	No Multicollinearity
Governance Reporting (GR)	1.512	No Multicollinearity
Social Reporting (SR)	1.389	No Multicollinearity
Firm Size (FS)	1.685	No Multicollinearity
Firm Leverage (FL)	1.109	No Multicollinearity
Firm Growth (FG)	1.094	No Multicollinearity
Mean VIF	1.340	

Source: Author's Computation (2026).

The VIF results in Table 5 confirm the absence of severe multicollinearity across the models. All VIF values are substantially below the commonly accepted threshold of 5, and below the conservative threshold of 2.5, with the highest value being 1.685 for Firm Size. These results are consistent with the correlation analysis and confirm that multicollinearity is not a concern for any objective of the study.

Table 6:
ADF-Fisher Chi² Panel Unit Root Test Results

Variable	Description	Statistic	p-value	Conclusion	Order of Integration
MVE	Market Value of Equity	442.618	0.000**	Stationary	I(0)
TOBINSQ	Tobin's Q	398.452	0.000**	Stationary	I(0)
PERATIO	Price-Earnings Ratio	401.220	0.000**	Stationary	I(0)
ER	Environmental Reporting	412.115	0.000**	Stationary	I(0)
SR	Social Reporting	409.740	0.000**	Stationary	I(0)
GR	Governance Reporting	405.671	0.000**	Stationary	I(0)
FS	Firm Size	98.475	0.830	Non-Stationary	I(1)
FL	Leverage	418.615	0.000**	Stationary	I(0)
FG	Firm Growth	429.516	0.000**	Stationary	I(0)

Source: Author's Computation (2026). *Note: ** denotes stationarity at the 5% level.*

Table 6 indicates that all variables are stationary at level except Firm Size, which becomes stationary after first differencing. Since the variables are integrated at either I(0) or I(1), with none integrated beyond the first order, the use of the Fixed Effects estimator remains appropriate

for the panel analysis. Accordingly, the mixed order of integration does not invalidate the regression estimates or the statistical inferences drawn from the models.

Table 7:
Lagrange Multiplier (LM) Test Results

Model	Cross-section	Time	Both
Environmental Reporting Model	185.421 (0.0000)***	1.654 (0.1983)	187.075 (0.0000)***
Social Reporting Model	179.836 (0.0000)***	1.482 (0.2235)	181.318 (0.0000)***
Governance Reporting Model	194.550 (0.0000)***	1.425 (0.2325)	195.975 (0.0000)***

Source: Author's Computation (2026). *Note: p-values in parentheses. *** p<0.01, ** p<0.05, * p<0.1.*

Table 7 presents the results of the Breusch-Pagan LM test used to determine whether the random effects model is more appropriate than pooled OLS. For all three models, the cross-sectional and combined effects are statistically significant at the 1% level, leading to the rejection of the null hypothesis that pooled OLS is sufficient and confirming the presence of significant panel effects. The time effect is not statistically significant in any model, suggesting that cross-sectional differences dominate over time variation. Given these results, the study proceeds with panel regression models and conducts the Hausman test to determine whether fixed or random effects specifications are more appropriate.

Table 8:
Hausman Test Results

Model Specification	Dependent Variable	Chi-Sq. Statistic	d.f.	Prob.	Decision
Environmental Reporting	MVE	18.642	5	0.0022***	Fixed Effects
	Tobin's Q	14.331	5	0.0136**	Fixed Effects
	P/E Ratio	12.558	5	0.0279**	Fixed Effects
Social Reporting	MVE	17.204	5	0.0041***	Fixed Effects
	Tobin's Q	15.872	5	0.0075***	Fixed Effects
	P/E Ratio	11.940	5	0.0357**	Fixed Effects
Governance Reporting	MVE	25.176	5	0.0001***	Fixed Effects
	Tobin's Q	16.220	5	0.0062***	Fixed Effects
	P/E Ratio	20.450	5	0.0010***	Fixed Effects

Source: Author's Computation (2026). *Note: *** p<0.01, ** p<0.05, * p<0.1.*

Table 8 shows that, for all dependent variables across the three models, the Chi-square statistics are significant at conventional levels ($p < 0.05$), leading to the rejection of the null hypothesis that the random effects model is appropriate. The Fixed Effects estimator is therefore preferred

throughout, as it effectively controls for unobserved firm-specific heterogeneity that may influence the relationship between sustainability reporting and value relevance.

Effect of Sustainability Reporting on Value Relevance

Table 9 presents the results of the fixed effects regression model examining the influence of the three ESG reporting dimensions on firm value, measured using Market Value of Equity (MVE), Tobin's Q, and the Price-to-Earnings (P/E) Ratio, controlling for firm size, leverage, and firm growth.

Table 9:
Fixed Effects Regression Results (ESG Reporting Dimensions)

Variables	Model 1 (MVE)	Model 2 (Tobin's Q)	Model 3 (P/E Ratio)
Governance Reporting (GR)	0.310*** (0.002)	0.185 (0.242)	0.458*** (0.000)
Social Reporting (SR)	0.288*** (0.005)	0.312*** (0.001)	0.145 (0.548)
Environmental Reporting (ER)	0.245*** (0.004)	0.198*** (0.009)	0.156** (0.035)
Firm Size (FS)	0.404*** (0.000)	-0.252*** (0.002)	0.118** (0.047)
Leverage (FL)	-0.105 (0.281)	0.035 (0.703)	-0.227*** (0.007)
Firm Growth (FG)	0.191** (0.018)	0.129 (0.109)	0.328*** (0.000)
Constant	3.958*** (0.001)	1.995** (0.047)	0.640 (0.527)
R-Squared	0.717	0.440	0.527
F-Statistic	49.01***	37.28***	47.72***
Prob (F-Stat)	0.0000	0.0000	0.0000

Source: Author's Computation (2026). *Note: Coefficients are outside parentheses; p-values in parentheses. *** p<0.01, ** p<0.05, * p<0.1.*

Model 1: Market Value of Equity (MVE)

The results indicate that all three ESG reporting dimensions significantly and positively influence Market Value of Equity. Governance Reporting (GR) has a positive and statistically significant coefficient ($\beta = 0.310$, $p = 0.002$), indicating that investors reward firms that provide more comprehensive governance disclosures, reflecting increased confidence in corporate accountability and transparency. Similarly, Social Reporting (SR) exerts a positive and significant effect on MVE ($\beta = 0.288$, $p = 0.005$), implying that firms with stronger disclosure of employee welfare, community engagement, and social responsibility tend to enjoy higher market valuations. Environmental Reporting (ER) also demonstrates a positive and statistically significant relationship with MVE ($\beta = 0.245$, $p = 0.004$), indicating that firms disclosing more comprehensive environmental information experience higher market valuation.

Regarding the control variables, Firm Size ($\beta = 0.404$, $p < 0.001$) positively and significantly affects MVE, indicating that larger firms command higher market valuations because of their

stronger resource base, economies of scale, and lower perceived risk. Firm Growth (β = 0.191, p = 0.018) also has a positive and significant influence on MVE, while Leverage has a negative but statistically insignificant effect (β = -0.105, p = 0.281). The model explains approximately 71.7% of the variation in Market Value of Equity (R^2 = 0.717), and the overall model is statistically significant (F = 49.01, p < 0.001), confirming that the explanatory variables jointly explain firm value.

Model 2: Tobin's Q

The findings for Tobin's Q reveal that Governance Reporting (β = 0.185, p = 0.242) has a positive but statistically insignificant effect, suggesting that although improved governance disclosure is associated with higher market valuation relative to replacement cost, the relationship is not sufficiently strong to be considered statistically reliable. Social Reporting significantly and positively affects Tobin's Q (β = 0.312, p = 0.001), indicating that firms with better social disclosures achieve higher market-based performance. Environmental Reporting also exhibits a positive and statistically significant relationship with Tobin's Q (β = 0.198, p = 0.009), implying that greater environmental disclosure enhances firm valuation as investors perceive environmentally responsible firms as less risky and more sustainable over the long term. From an economic perspective, the findings imply that firms with stronger environmental and social disclosures are more likely to attract favourable market valuations relative to their asset base, reflecting investors' expectations of improved long-term performance and lower business risk.

Among the control variables, Firm Size has a negative and statistically significant coefficient (β = -0.252, p = 0.002), suggesting that larger, more mature firms may possess fewer growth opportunities than smaller, expanding firms. Firm Growth shows a positive but insignificant relationship (β = 0.129, p = 0.109), while Leverage is also statistically insignificant (β = 0.035, p = 0.703). The model explains 44.0% of the variation in Tobin's Q (R^2 = 0.440), and the F-statistic (37.28, p < 0.001) confirms that the overall regression model is statistically significant.

Model 3: Price-to-Earnings (P/E) Ratio

For the Price-to-Earnings Ratio, Governance Reporting has a positive and highly significant coefficient (β = 0.458, p < 0.001), indicating that firms with stronger governance disclosures receive higher earnings multiples from investors, reflecting improved investor confidence regarding future profitability. Social Reporting, however, has a positive but statistically insignificant coefficient (β = 0.145, p = 0.548), indicating that social disclosures do not significantly influence the P/E ratio within the sample. Environmental Reporting significantly and positively affects the P/E ratio (β = 0.156, p = 0.035), suggesting that investors assign higher valuation multiples to firms demonstrating stronger environmental reporting practices. Economically, these findings suggest that stronger governance and environmental disclosures enhance investors' confidence in firms' future earnings potential, resulting in higher valuation multiples and reinforcing the strategic importance of sustainability reporting beyond regulatory compliance.

Among the control variables, Firm Size positively influences the P/E ratio (β = 0.118, p = 0.047), and Firm Growth also has a positive and highly significant effect (β = 0.328, p < 0.001), reflecting investors' preference for firms with stronger growth prospects. In contrast, Leverage

negatively and significantly affects the P/E ratio (β = -0.227, p = 0.007), suggesting that higher debt levels reduce investor valuation because of increased financial risk. The model records an R^2 of 52.7%, indicating that the independent variables explain more than half of the variation in firms' P/E ratios, and the overall model is statistically significant (F = 47.72, p < 0.001).

Post-Model Estimation Analyses

Two post-estimation diagnostics, the Modified Wald test for heteroscedasticity and the Wooldridge test for serial correlation, were conducted for the three models to ensure that the regression estimates are efficient and that statistical inferences drawn from them are valid.

Table 10:
Post-Estimation Diagnostic Test Results

Model	Wald Chi-Sq. (Heteroscedasticity)	Prob.	Wooldridge F-Stat (Serial Correlation)	Prob.	Implication
Environmental Reporting	2.879	0.2370	2.104	0.1490	No heteroscedasticity; no serial correlation
Social Reporting	3.154	0.1860	2.326	0.1310	No heteroscedasticity; no serial correlation
Governance Reporting	2.615	0.2710	1.592	0.2100	No heteroscedasticity; no serial correlation

Source: Author's Computation (2026).

Table 10 shows that, for all three models, the probability values of the Modified Wald test exceed the 0.05 threshold, indicating that the null hypothesis of homoscedasticity cannot be rejected and that the variance of the error terms is constant across panel units. Similarly, the Wooldridge test probability values exceed 0.05 for all models, indicating the absence of first-order serial correlation. These results confirm that the Fixed Effects estimates for the environmental, social, and governance reporting models are efficient, and that the standard errors and therefore the statistical inferences drawn from them, are reliable and require no further correction.

Discussion of Findings

The findings of this study reveal that environmental reporting, social reporting, and governance reporting generally have a positive effect on the value relevance of quoted companies in Nigeria. Specifically, environmental reporting exerts a positive and statistically significant effect across all three measures of value relevance (Market Value of Equity, Tobin's Q, and Price-to-Earnings Ratio), while social reporting significantly influences Market Value of Equity and Tobin's Q but has no significant effect on the Price-to-Earnings Ratio. Governance reporting, on the other hand, significantly and positively affects Market Value of Equity and the Price-to-Earnings Ratio but exhibits a positive yet statistically insignificant relationship with Tobin's Q. Overall, these findings suggest that investors in the Nigerian capital market increasingly consider environmental, social, and governance information as value-relevant when assessing firms, although the strength of the relationship varies across different market-based measures of firm value.

The finding on environmental reporting is consistent with Legitimacy Theory, which posits that firms enhance their value by aligning with societal expectations through transparent environmental practices (Dowling & Pfeffer, 1975; Suchman, 1995). It also corroborates prior Nigerian evidence that environmental disclosure improves investor confidence and market performance (Nzekwe & Okoye, 2021; Adegbite & Olajide, 2022; Olayinka & Akinadewo, 2023), as well as findings from other developing economies such as Ghana and Pakistan (Nwankwo & Okonkwo, 2021; Khan & Baloch, 2022) and developed markets (Carter & Hughes, 2020; Johansson & Keller, 2021; Meyer & Robinson, 2023).

The positive effect of social reporting supports Stakeholder Theory, which argues that firms create long-term value by responding to the interests and expectations of diverse stakeholder groups through transparent and responsible disclosure practices (Freeman, 1984). The findings are consistent with previous Nigerian studies showing that disclosures relating to employee welfare, community engagement, and social responsibility significantly enhance market-based performance (Adebayo & Ibrahim, 2021; Okonkwo & Oyetunde, 2022; Owolabi & Ekwueme, 2023). However, the insignificant relationship between social reporting and the Price-to-Earnings Ratio suggests that while investors value firms' social responsibility initiatives in terms of overall market valuation, such disclosures may not substantially influence earnings-based valuation multiples, possibly because investors perceive social investments as generating benefits over a longer horizon.

Similarly, the positive influence of governance reporting on Market Value of Equity and the Price-to-Earnings Ratio is consistent with Agency Theory, which argues that effective governance mechanisms reduce agency conflicts, improve transparency, and strengthen investor confidence by ensuring that managers act in the best interests of shareholders (Jensen & Meckling, 1976; Fama & Jensen, 1983). The findings support the empirical evidence of Akintunde et al. (2024), who found that comprehensive governance disclosures improve corporate reputation, facilitate access to capital, and enhance firm value. However, the insignificant effect of governance reporting on Tobin's Q indicates that governance disclosure alone may not be sufficient to influence market valuation relative to replacement cost, as this measure may also reflect broader firm-specific, industry, and macroeconomic factors. This result partially aligns with Rahat and Nguyen (2024), who argued that governance disclosures do not always translate into higher market valuation because investors may associate extensive governance reporting with increased compliance costs or underlying governance challenges.

Taken together, the findings demonstrate that sustainability reporting in Nigeria has evolved beyond a regulatory compliance exercise into a strategic mechanism for enhancing corporate transparency, strengthening investor confidence, and improving market valuation. The significant effects of environmental reporting across all value relevance measures indicate that environmental disclosure has become an important determinant of investor decision-making, while the positive effects of social and governance reporting reinforce the growing importance of non-financial information in capital market valuation. Nevertheless, the insignificant relationships observed for governance reporting on Tobin's Q and social reporting on the Price-to-Earnings Ratio suggest that different dimensions of ESG reporting may influence different aspects of firm value depending on the valuation metric considered. This underscores the

multidimensional nature of value relevance and the need for firms to provide balanced and high-quality disclosures across all ESG dimensions.

5.0 Conclusion and Recommendations

Based on the findings of this study, it is concluded that environmental, social, and governance (ESG) reporting generally enhances the value relevance of quoted companies in Nigeria. Specifically, the null hypothesis that environmental reporting has no significant effect on value relevance (H01) is rejected, as environmental disclosures significantly improve Market Value of Equity, Tobin's Q, and the Price-to-Earnings Ratio. Similarly, the null hypothesis that social reporting has no significant effect on value relevance (H02) is rejected, because social reporting significantly enhances Market Value of Equity and Tobin's Q, although its effect on the Price-to-Earnings Ratio is not statistically significant. Furthermore, the null hypothesis that governance reporting has no significant effect on value relevance (H03) is also rejected, as governance reporting significantly improves Market Value of Equity and the Price-to-Earnings Ratio, despite exhibiting an insignificant effect on Tobin's Q.

Anchored on Legitimacy Theory, Stakeholder Theory, and Agency Theory, the study concludes that sustainability reporting generally enhances the value relevance of quoted companies in Nigeria, although its effects vary across ESG dimensions and valuation measures. Environmental reporting consistently demonstrates a positive and significant influence on all three measures of firm value, while the effects of social and governance reporting are significant only for selected valuation measures. These findings suggest that investors attach varying degrees of importance to different sustainability disclosures, highlighting the multidimensional nature of ESG reporting in influencing firm valuation. While the three dimensions of sustainability reporting do not exert identical effects across all valuation measures, their overall positive influence indicates that investors increasingly incorporate non-financial disclosures into their assessment of firm value. The study also concludes that firm-specific characteristics, particularly firm size and firm growth, remain important determinants of value relevance, whereas higher leverage tends to reduce investor valuation, particularly when measured by the Price-to-Earnings Ratio.

Based on the findings and conclusions of this study, the following recommendations are proposed to enhance the value relevance of sustainability reporting among quoted firms in Nigeria:

i. Given the positive and significant effect of environmental reporting on Market Value of Equity, Tobin's Q, and the Price-to-Earnings Ratio, quoted companies in Nigeria should strengthen the quality, consistency, and credibility of their environmental disclosures. Firms should adopt internationally recognised reporting frameworks such as the Global Reporting Initiative (GRI) and provide more comprehensive and verifiable information on carbon emissions, energy consumption, waste management, and other environmental performance indicators to enhance investor confidence and firm valuation.

ii. Since social reporting significantly improves Market Value of Equity and Tobin's Q, firms should enhance the quality and depth of their social disclosures by providing transparent information on employee welfare, occupational health and safety, diversity and inclusion, community development initiatives, and other social responsibility activities, integrating such

disclosures into corporate reporting to strengthen stakeholder confidence and improve market valuation.

iii. In view of the positive influence of governance reporting on Market Value of Equity and the Price-to-Earnings Ratio, firms should strengthen their governance reporting by improving disclosures relating to board independence, board diversity, executive remuneration, internal control systems, audit committee effectiveness, risk management, and shareholders' rights. Enhanced governance transparency will reinforce investor confidence and contribute to sustainable corporate value creation.

iv. Regulatory institutions, including the Financial Reporting Council of Nigeria (FRCN), the Securities and Exchange Commission (SEC), and the Nigerian Exchange Group (NGX), should strengthen and harmonise ESG reporting requirements by providing clearer disclosure guidelines, encouraging independent assurance of sustainability reports, and progressively moving towards mandatory ESG reporting to improve the comparability, credibility, and decision usefulness of non-financial disclosures.

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