Green accounting disclosure and performance of manufacturing firms in Nigeria

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Abstract

This study examined the influence of green accounting on the performance of publicly traded manufacturing firms in Nigeria. Firm performance was measured using Tobin's Q, while green accounting practices were proxied by economic disclosure, environmental disclosure, and social disclosure. The study employed secondary data obtained from the annual financial reports of manufacturing firms listed on the Nigerian Exchange Group (NGX) covering the period 2018–2023. A panel data multiple regression model was applied to test the formulated hypotheses.

The findings revealed that economic disclosure had a statistically insignificant relationship with the performance of Nigerian manufacturing firms. In contrast, environmental disclosure and social disclosure exhibited significant effects on firm performance. The results suggest that environmental and social responsibility practices play an important role in shaping market valuation and investor confidence in manufacturing firms. However, economic disclosure related to green accounting does not significantly influence firm performance within the period examined.

The study concludes that while green accounting practices are increasingly important for corporate sustainability and transparency, firms must strategically manage their disclosures to ensure that environmental and social reporting enhances corporate value and stakeholder confidence.

Keywords: Green Accounting, Environmental Disclosure, Social Disclosure, Firm Performance, Tobin's Q, Manufacturing Firms, Nigeria.

Introduction

Attention to environmental sustainability has increased considerably in recent years due to growing global concerns about climate change, environmental degradation, and corporate accountability. These concerns have intensified regulatory pressures and stakeholder expectations, thereby reinforcing the relevance of green accounting. Green accounting integrates environmental considerations into conventional financial reporting to ensure that the environmental impacts of corporate activities are systematically measured and transparently disclosed. In Nigeria, corporate performance has been shown to depend partly on how firms manage and report environmental responsibilities (Ihenyen & Ikegima, 2022). Similarly, recent empirical studies suggest that environmental accounting disclosure enhances transparency, strengthens stakeholder trust, and may improve firm value (Olayinka & Oluwamayowa, 2022; Uwuigbe et al., 2023).

The manufacturing sector plays a vital role in Nigeria's economic development through industrial production, employment generation, and technological advancement. However, it is also a major contributor to environmental pollution, waste generation, and natural resource depletion. These environmental challenges underscore the need for improved corporate environmental responsibility and transparent reporting practices. Empirical evidence from emerging economies indicates that firms adopting sustainability and environmental disclosure practices may achieve reputational gains, operational efficiency, and improved long-term performance (Odoemelam & Okafor, 2023).

Globally, frameworks such as the Global Reporting Initiative (GRI) and the International Integrated Reporting Council (IIRC) promote high-quality environmental and sustainability disclosures. Despite the availability of these frameworks, compliance among Nigerian manufacturing firms remains inconsistent. Although environmental regulations and policies exist, enforcement mechanisms are relatively weak, limiting the effectiveness of green accounting practices. As a result, stakeholders—including investors, regulators, and host communities—continue to demand more credible and comprehensive environmental disclosures.

While prior studies have examined sustainability reporting and corporate performance in emerging markets, empirical evidence on the specific dimensions of green accounting—economic, environmental, and social disclosures—and their direct impact on firm performance in Nigeria's manufacturing sector

remains limited and inconclusive. Existing studies often aggregate sustainability measures without disaggregating the distinct components of green accounting, thereby obscuring their individual effects on firm value. Furthermore, few studies employ recent panel data covering the post-2018 sustainability reporting era in Nigeria.

This study contributes to the literature in three key ways. First, it disaggregates green accounting into economic, environmental, and social disclosure components to assess their individual effects on firm performance. Second, it focuses specifically on publicly listed manufacturing firms in Nigeria, a sector with significant environmental exposure. Third, it provides recent empirical evidence (2018–2023) using panel regression analysis, thereby offering updated insights relevant to policymakers, regulators, and corporate managers.

Accordingly, this study evaluates the effect of green accounting disclosure on the performance of manufacturing firms listed on the Nigerian Exchange Group (NGX), with performance measured using Tobin's Q.

Literature Review

Conceptual Review

Green Accounting Disclosure Quality

Green accounting, also referred to as environmental accounting, has been widely discussed in the literature with varying conceptual interpretations. According to Chartered Institute of Management Accountants, environmental accounting focuses on identifying, measuring, and communicating environmental costs and impacts associated with business activities. Similarly, Adeleye and Asebiode (2023) describe green accounting as a set of practices designed to promote sustainable development, maintain strong relationships with communities, and ensure effective environmental conservation initiatives.

In recent years, global interest in sustainable business practices has significantly increased, leading to growing awareness of green accounting techniques among corporate stakeholders. As environmental concerns intensify, organizations are increasingly expected to disclose the environmental implications of their operational activities. Scholars have examined green accounting using various perspectives such as environmental accounting checklists, environmental cost

measurement, and disclosure practices (Adegbie et al., 2020; Owolabi & Solarin, 2020).

The quality of green accounting disclosures is particularly important because it determines the credibility, transparency, and usefulness of environmental information provided to stakeholders. High-quality disclosures enhance corporate accountability, facilitate informed decision-making, and strengthen stakeholder confidence. Conversely, poor-quality disclosures may undermine corporate legitimacy and weaken investor trust. Consequently, examining the effect of green accounting disclosure quality on organizational performance provides valuable insights into how sustainability reporting contributes to corporate value creation.

Environmental Disclosure

Environmental disclosure refers to the public reporting of information regarding an organization’s environmental performance and environmental management practices. According to the Chartered Institute of Management Accountants (CIMA, 2012), environmental reporting involves the disclosure of information relating to an entity’s environmental activities, impacts, and policies. Such disclosures enable organizations to demonstrate accountability regarding the environmental consequences of their operations.

Environmental disclosure typically includes information about waste management, pollution control, environmental compliance, energy consumption, and environmental protection initiatives. By communicating such information to stakeholders, firms provide evidence of their commitment to environmental sustainability and responsible corporate behavior.

Furthermore, environmental disclosure serves as a strategic communication tool through which organizations signal their environmental responsibility to regulators, investors, and the wider public. Firms that provide comprehensive environmental disclosures are often perceived as more transparent and socially responsible, thereby enhancing their corporate image and legitimacy.

Sustainability Disclosure

Sustainability disclosure encompasses a broader range of reporting that integrates environmental, economic, and social dimensions of corporate performance. According to the Sustainability Accounting Standards Board (2013), sustainability reporting involves the disclosure of both qualitative and quantitative information regarding a firm's performance on material environmental, social, and governance (ESG) issues.

Unlike environmental disclosure, sustainability disclosure incorporates additional elements such as corporate governance practices, social responsibility initiatives, employee welfare, community engagement, and contributions toward achieving the Sustainable Development Goals (SDGs). It therefore provides a more holistic view of a company's commitment to sustainable development.

Sustainability disclosure enables investors and other stakeholders to evaluate whether organizations are balancing profitability with environmental protection and social responsibility. Firms that provide high-quality sustainability disclosures often gain improved corporate reputation, enhanced investor confidence, and increased long-term competitiveness.

Economic Disclosure

Economic disclosure refers to the reporting of financial information relating to environmental and sustainability practices within an organization. It reflects how corporate activities influence economic sustainability and the efficient utilization of natural resources.

Economic disclosure aligns with international sustainability reporting frameworks such as the Global Reporting Initiative (GRI), which encourages organizations to disclose economic performance alongside environmental and social impacts. Such disclosures provide stakeholders with information regarding environmental compliance costs, investments in environmentally friendly technologies, and expenditures associated with sustainable resource management.

For manufacturing firms, economic disclosure plays a crucial role in assessing the financial implications of environmental responsibility. It highlights the extent to which organizations integrate environmental considerations into their financial decision-making processes. High-quality economic disclosures demonstrate a firm's commitment to sustainability and strengthen stakeholder confidence in corporate governance practices.

Performance of Manufacturing Firms in Nigeria

Corporate performance refers to the ability of an organization to effectively utilize its resources to achieve financial and operational objectives. It reflects the overall financial health, operational efficiency, and market competitiveness of a firm (Eze, 2021).

Manufacturing firms in Nigeria play a significant role in national economic development through job creation, industrial growth, and technological advancement. However, the sector is also associated with considerable environmental challenges due to industrial production processes that often generate pollution, waste, and resource depletion. Consequently, manufacturing firms are increasingly expected to disclose environmental and sustainability-related information in their financial reports (Jahun et al., 2024).

Corporate performance can be evaluated using several metrics, including market-based measures such as share price and Tobin's Q, accounting-based measures such as return on assets (ROA), return on equity (ROE), and return on capital employed (ROCE), as well as operational indicators such as return on sales (ROS) and return on investment (ROI). In this study, the performance of manufacturing firms is measured using Tobin's Q, a widely recognized market-based performance indicator.

Tobin's Q

Tobin's Q is a widely used measure for evaluating corporate performance. It is defined as the ratio of a firm's market value to the replacement cost of its assets. A Tobin's Q value greater than one indicates that the market values the firm more highly than the replacement cost of its assets, suggesting strong market performance and positive investor perception.

The use of Tobin's Q is particularly relevant in studies examining sustainability and environmental disclosure because it captures market-based perceptions of corporate value. Investors often consider environmental responsibility and sustainability practices when evaluating firms for investment purposes.

In the context of this study, Tobin's Q serves as an appropriate performance measure because it links financial performance with market valuation. By examining the relationship between green accounting disclosure quality and Tobin's Q, the study seeks to determine whether transparent environmental

reporting enhances corporate value and investor confidence in Nigerian manufacturing firms.

Theoretical Review

This study is anchored on Stakeholder Theory and Legitimacy Theory, both of which provide theoretical justification for environmental and sustainability disclosures.

Stakeholder Theory

Stakeholder theory was developed by R. Edward Freeman in 1984. The theory posits that organizations should conduct their operations in a manner that creates value for all stakeholders, rather than focusing solely on shareholders (Freeman, 1984).

Stakeholders include investors, employees, customers, regulators, host communities, suppliers, and the environment. According to stakeholder theory, organizations must address the expectations and interests of these diverse groups in order to achieve long-term sustainability.

Green accounting disclosures serve as a mechanism through which organizations communicate their environmental and social responsibilities to stakeholders. Transparent reporting enables firms to demonstrate accountability, strengthen stakeholder relationships, and enhance corporate legitimacy. Consequently, stakeholder theory provides a strong conceptual foundation for understanding how environmental disclosures contribute to corporate performance.

Legitimacy Theory

Legitimacy theory was proposed by John Dowling and Jeffrey Pfeffer in 1975. The theory is based on the notion of a social contract between organizations and society. According to this perspective, organizations must operate in accordance with societal norms, values, and expectations in order to maintain legitimacy (Salawu, 2020).

Legitimacy theory suggests that firms adopt disclosure strategies to demonstrate compliance with societal expectations and reduce the legitimacy gap between corporate activities and public expectations. Environmental and sustainability

disclosures therefore serve as important tools for maintaining organizational legitimacy.

Manufacturing firms that provide high-quality green accounting disclosures signal their commitment to environmental sustainability and social responsibility. This not only strengthens their legitimacy in the eyes of stakeholders but also enhances their market reputation and corporate performance.

Empirical Review

Several empirical studies have examined the relationship between green accounting disclosures and corporate performance across different sectors and countries.

Charlie and Akpan (2024) investigated the relationship between green accounting and firm value among healthcare companies listed on the Nigerian Exchange Group. The study examined six healthcare firms over the period 2010–2023. The findings revealed that costs associated with greenhouse gas emissions and investments in renewable energy had positive effects on earnings per share (EPS) and market capitalization. The study recommended sustained adoption of green accounting practices to enhance corporate value.

Similarly, Gwar et al. (2024) examined the moderating effect of board composition on the relationship between environmental disclosure and corporate performance among forty-five manufacturing companies listed in Nigeria. Using ten years of secondary data from annual reports, the study found that environmental disclosure significantly affects return on assets (ROA). The results further indicated that board composition significantly moderates the relationship between environmental disclosure and corporate performance.

Ihenyen and Pabraebiowei (2024) examined green accounting and the financial performance of oil and gas companies listed on the Nigerian Exchange Group. The study employed environmental cost as a proxy for green accounting disclosure and used return on assets (ROA), net profit margin (NPM), and return on capital employed (ROCE) as performance indicators. The findings revealed no significant relationship between green accounting disclosure and net profit margin or return on capital employed. The study recommended that oil and gas firms should continue disclosing environmental costs despite the insignificant statistical relationship.

Islam et al. (2024) investigated the effect of environmental reporting on the performance of firms listed on the Dhaka Stock Exchange in Bangladesh. Using data from 177 companies, the results showed that environmental disclosure had a positive and significant effect on market performance measured by Tobin's Q.

Okoye et al. (2024) examined the effect of sustainability accounting disclosure on the financial performance of brewery firms in Nigeria using an ex-post facto research design. The results revealed that economic sustainability disclosure had no significant effect on net profit margin, while environmental sustainability disclosure had a significant impact on financial performance.

Usiomon and Iyoha (2024) explored environmental disclosure determinants among oil and gas firms in Nigeria over the period 2012–2021. Using panel least squares regression, the study found that environmental disclosure is positively associated with firm size, while profitability had no statistically significant effect.

Eniola (2022) analyzed the impact of green accounting on the financial performance of Oando Plc. The results indicated no significant relationship between environmental costs and net income, return on assets, or return on capital employed. The study nevertheless recommended continued disclosure of environmental activities to enhance stakeholder decision-making.

Finally, Hassan and Ajala (2022) examined ethical challenges affecting environmental accounting disclosure in Nigeria. The findings identified issues such as confidentiality breaches, misrepresentation of expertise, insider trading, and inadequate transparency as key obstacles to effective environmental reporting. The study recommended stronger enforcement of environmental regulations and mandatory corporate contributions toward community development.

Research Gap and Hypotheses Development

Despite the growing body of literature on green accounting and sustainability reporting, empirical findings remain inconclusive regarding their impact on corporate performance. Several studies have examined environmental accounting disclosures and their implications for firm performance; however, the results vary across sectors, countries, and measurement approaches.

For instance, Charlie and Akpan (2024) reported a positive relationship between green accounting practices and firm value in Nigerian healthcare companies,

while Islam et al. (2024) found that environmental disclosure significantly improves market performance measured using Tobin's Q among firms listed on the Dhaka Stock Exchange. Similarly, Gwar et al. (2024) documented that environmental disclosure positively affects return on assets among Nigerian manufacturing firms.

Conversely, other studies have reported insignificant relationships between green accounting variables and financial performance. Ihenyen and Pabraebiowei (2024) found that green accounting disclosure had no significant relationship with net profit margin and return on capital employed among Nigerian oil and gas firms. Likewise, Eniola (2022) reported no significant association between environmental cost disclosures and financial performance indicators such as return on assets and return on capital employed.

These inconsistencies suggest that the relationship between green accounting disclosures and corporate performance remains unresolved in the literature. Furthermore, many previous studies have focused primarily on single indicators of environmental disclosure or financial performance. Limited attention has been given to the combined effects of economic, environmental, and sustainability disclosures on market-based performance indicators such as Tobin's Q, particularly within the Nigerian manufacturing sector.

Another notable gap is that several studies have relied mainly on accounting-based performance measures such as return on assets and return on equity, which may not fully capture investors' perception of corporate value. Market-based indicators such as Tobin's Q provide a more comprehensive evaluation of firm performance because they reflect both financial outcomes and investor expectations regarding future growth and sustainability.

In addition, manufacturing firms represent one of the most environmentally sensitive sectors in Nigeria due to their intensive production processes and environmental impacts. Despite this, empirical evidence on how green accounting disclosure quality affects the market valuation of manufacturing firms remains relatively limited.

This study therefore seeks to fill this gap by examining the influence of green accounting disclosure quality—proxied by economic disclosure, environmental disclosure, and sustainability disclosure—on the performance of publicly traded manufacturing firms in Nigeria using Tobin's Q as a measure of market performance.

Based on the theoretical foundations of stakeholder theory and legitimacy theory, firms are expected to improve their market value by disclosing environmental and sustainability information that enhances transparency, accountability, and stakeholder confidence.

Consequently, the following hypotheses are formulated:

H_1: Economic disclosure has no significant effect on the performance of publicly traded manufacturing firms in Nigeria.

H_2: Environmental disclosure has no significant effect on the performance of publicly traded manufacturing firms in Nigeria.

H_3: Sustainability disclosure has no significant effect on the performance of publicly traded manufacturing firms in Nigeria.

These hypotheses are tested empirically to determine whether green accounting disclosure quality contributes to improving the market valuation and overall performance of manufacturing firms in Nigeria.

Methodology

Research Design

This study evaluated the impact of green accounting on the performance of manufacturing firms in Nigeria for the period spanning 2018 to 2023. The study adopted an ex-post facto research design because it relied on historical data obtained from already existing financial reports of firms.

The study consisted of fifty-five firms classified under manufacturing-related sectors listed on the Nigeria Exchange Group (NGX). These include Agriculture (5), Consumer Goods (18), Healthcare (8), Industrial Goods (14), and Oil and Gas (10). Although the Nigeria Exchange Group does not explicitly classify firms under a single manufacturing category, this study grouped firms whose economic activities involve heavy industrial operations and the use of equipment that may pose environmental risks (Aliyu, 2019).

The study covered a five-year period from 2018 to 2023 and employed a balanced panel data approach. This approach accounts for variations in firms'

operational activities during the study period and captures the dynamic characteristics of firms across time.

Model Specification

The study adapted the model used by Ordu and Amah (2021), which examined sustainability reporting and the financial performance of oil and gas companies in Nigeria. The model is expressed as follows:

ROA=f(ESP)(1)

Where:
ROA = Return on Assets
ESP = Environmental Spending

Functionally, the model was further specified as:

ROA=f(ECD,END,COD) ……………………………………………(1)
Where:
ROA = Return on Assets
ECD = Economic Disclosure
END = Environmental Disclosure
COD = Community Disclosure

Ordu and Amah (2021) captured sustainability practices using economic disclosure, environmental disclosure, and community disclosure, reflecting the comprehensive sustainability reporting framework recommended by the Global Reporting Initiative (GRI).

However, the model was modified in this study to incorporate green accounting variables, namely Environmental Disclosure Index (EDI), Social Disclosure Index (SDI), and Economic Disclosure Index (ECODI) as indicators of green accounting practices. Tobin’s Q (TQ) was used as the proxy for firm financial performance, serving as the dependent variable.

The modified functional model is expressed as:

TQ=f(EDI,SDI,ECODI)……………………………………………….(2)

Based on this functional relationship, the econometric model is specified as:

$TQit=\beta_0+\beta_1 EDI_{it}+\beta 2SDI_{it}+\beta 3ECODI_{it}+\mu_{it}$ …………………………..(3)

Where:

EDI = Environmental Disclosure Index
SDI = Social Disclosure Index
ECODI = Economic Disclosure Index
TQ = Tobin's Q (Financial Performance)
β_0 = Constant term
$\beta_1 - \beta_3$

Results and Discussion

Descriptive Statistics

The summary statistics of the variables employed in the study are presented in Table 1. The statistics provide information on the distributional characteristics of the dependent, explanatory, and control variables used in the analysis.

Table 1
Descriptive Statistics of Variables

Variable	Mean	Median	Max	Min	Std. Dev.	Skewness	Kurtosis	JB (Prob.)	Obs.
TQ	2.373	1.105	103.963	0.193	7.891	9.292	102.302	0.000	316
ECOD	0.413	0.556	1.000	0.000	0.392	0.089	1.304	0.000	330
ENVD	0.241	0.324	1.000	0.000	0.252	0.752	3.350	0.000	330
SOCD	0.247	0.313	0.854	0.000	0.239	0.378	2.265	0.000	330

SD	0.262	0.363	0.923	0.000	0.255	0.380	2.253	0.000	330
FSIZE	17.092	17.249	22.094	10.956	2.342	-0.196	2.407	0.0357	316
LEV	0.889	0.595	19.557	0.025	2.015	7.515	61.808	0.000	316

Source: Author's computation from EViews output (2025).

Correlation Analysis

The correlation matrix presented in Table 2 examines the degree of association between Tobin's Q and the explanatory variables, as well as the relationships among the explanatory variables.

Table 2
Correlation Matrix

Variable	TQ	ECOD	ENVD	SOCD	SD	FSIZE	LEV
TQ	1.000						
ECOD	0.152973	1.000					
ENVD	0.068676	0.888645	1.000				
SOCD	0.071736	0.927692	0.961640	1.000			
SD	0.084281	0.941458	0.982665	0.993388	1.000		
FSIZE	-0.302494	0.382355	0.425748	0.381180	0.404980	1.000	
LEV	0.950469	0.180327	0.083988	0.086223	0.101299	-0.313700	1.000

Source: Author's computation from EViews output (2025).

Hausman Test

The Hausman specification test was conducted to determine the appropriate model between the fixed effects and random effects estimators. A probability value below 0.05 indicates that the fixed effects model is preferred.

Table 3
Hausman Specification Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f	Prob.
Cross-section random	27.022015	5	0.0001

Source: Author's computation from EViews output (2025).

Fixed Effect Regression Results

The fixed effects regression results are reported in Table 4. The model examines the effect of sustainability disclosure components on firm performance measured by Tobin's Q.

Table 4
Fixed Effect Model Results (Dependent Variable: Tobin's Q)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	25.91081	10.10014	2.565391	0.0109
ECOD	-3.285855	3.490357	-0.941409	0.3474
ENVD	44.20144	19.76532	2.236313	0.0262
SOCD	-15.83443	3.931946	-4.027122	0.0001
FSIZE	-0.631938	0.392656	-1.609393	0.1088
LEV	4.402024	1.481777	2.970774	0.0033

Model Statistics: $R^2 = 0.928$; Adjusted $R^2 = 0.911$; F-statistic = 55.92589 ($p < 0.001$); Durbin–Watson = 2.44.

Source: Author's computation from EViews output (2025).

Discussion of Findings

The findings indicate that economic disclosure exhibits a negative but statistically insignificant relationship with Tobin's Q, suggesting that variations in economic disclosure do not substantially influence firm value within the sampled firms. Environmental disclosure demonstrates a positive and statistically significant effect on firm performance, indicating that greater environmental transparency enhances market valuation. Conversely, social disclosure shows a negative and statistically significant association with Tobin's Q, implying that increased social disclosure may impose short- term cost pressures that affect firm value. Among the control variables, firm size is negative but insignificant, while leverage shows a positive and statistically significant influence on firm performance.

Conclusion and Recommendations

Conclusion

The manufacturing sector remains a critical driver of Nigeria's industrialization, employment generation, and overall economic development. In recognition of this importance, the present study examined the impact of green accounting practices on the performance of manufacturing firms listed on the Nigerian Exchange Group (NGX). Specifically, the study evaluated the influence of economic disclosure, environmental disclosure, and social disclosure on firm performance.

The empirical evidence indicates that green accounting practices play a meaningful role in shaping the performance outcomes of manufacturing firms. Environmental disclosure was found to exert a positive and statistically significant effect on firm performance, suggesting that firms that demonstrate transparency in environmental practices are more likely to enhance their market valuation and stakeholder confidence. This finding aligns with contemporary sustainability literature, which emphasizes that transparent environmental reporting improves corporate reputation and investor perception.

However, the results reveal that economic disclosure exhibits a negative but statistically insignificant relationship with firm performance. This suggests that although firms disclose economic sustainability information, such disclosures may not yet translate into measurable market benefits within the Nigerian manufacturing environment.

Similarly, social disclosure shows a negative but statistically significant relationship with firm performance. This outcome may reflect the short-term financial commitments associated with social responsibility activities such as community engagement, employee welfare programs, and philanthropic initiatives. Nevertheless, these activities may generate long-term strategic advantages through improved corporate reputation, stakeholder loyalty, and sustainable business practices.

Overall, the findings demonstrate that while certain components of green accounting may initially exert financial pressures on firms, sustainability disclosures remain essential for promoting transparency, strengthening stakeholder trust, and supporting long-term corporate sustainability within the Nigerian manufacturing sector.

Policy and Managerial Implications

The findings of this study provide important implications for regulators, policymakers, and corporate managers in Nigeria.

First, regulatory authorities such as the Nigerian Exchange Group (NGX) and financial reporting regulators should strengthen sustainability reporting guidelines to encourage more consistent and comprehensive green accounting disclosures. Strengthened regulatory frameworks can improve transparency, enhance corporate accountability, and align Nigeria with global sustainability reporting standards.

Second, corporate managers should recognize green accounting not merely as a regulatory requirement but as a strategic management tool capable of improving long-term competitiveness. Integrating environmental and social disclosures into corporate strategies may enhance brand reputation, attract socially responsible investors, and strengthen stakeholder relationships.

Third, policymakers should provide incentives that encourage firms to adopt sustainability reporting practices. Tax incentives, sustainability recognition programs, and regulatory support mechanisms could motivate organizations to adopt comprehensive environmental and social reporting frameworks.

Recommendations

Based on the empirical findings of this study, the following recommendations are proposed:

1. Strengthening Economic Disclosure Transparency

Manufacturing firms in Nigeria should improve the transparency and quality of their economic sustainability disclosures. Firms should adopt structured reporting frameworks that clearly communicate their financial sustainability strategies, operational efficiency measures, and value-creation mechanisms to stakeholders. Transparent economic reporting enhances investor confidence and supports long-term corporate stability.

2. Adoption of International Sustainability Reporting Standards

Manufacturing firms should adopt internationally recognized sustainability reporting frameworks such as the **Global Reporting Initiative (GRI)** and the **Sustainability Accounting Standards Board (SASB)** standards. These frameworks provide standardized guidelines for environmental disclosure and can enhance the credibility, comparability, and usefulness of sustainability information presented to stakeholders.

3. Strategic Implementation of Social Responsibility Disclosure

Manufacturing firms should implement social disclosure initiatives strategically by focusing on human capital development, employee welfare, community engagement, and sustainable social investments. These disclosures should be integrated into traditional financial reporting systems to provide a comprehensive view of organizational performance.

Furthermore, government agencies should introduce policy incentives that encourage firms to disclose their social responsibility initiatives. Transparent social reporting can strengthen stakeholder trust, attract responsible investment, and promote sustainable corporate growth despite the potential short-term costs associated with social responsibility programs.

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