EFFECT OF SUSTAINABILITY DISCLOSURES ON FIRMS' VALUE OF LISTED NON-FINANCIAL COMPANIES IN NIGERIA

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ABSTRACT

The emergence of economic, environmental, and social reporting has contributed to the recent rise in popularity of sustainability disclosures. In light of this newfound understanding, investors are anticipated to prefer companies with superior sustainability reports when making investment choices. This research evaluated the influence of sustainability disclosure on the valuations of publicly listed non-financial companies in Nigeria. Specifically, the study investigated how the triple bottom line (TBL), encompassing economic, environmental, and social dimensions, affects firm value. Ex-post factor and longitudinal research methodologies were utilized. The total population comprised all 108 non-financial companies listed on the Nigerian Public Exchange as of December 31, 2023. Owing to the availability of comprehensive data, a purposive sampling method was applied to select 47 firms listed as of 2023. The data collected were sourced secondarily from the audited financial statements of the non-financial firms in Nigeria. The research spans a timeframe of 14 years, from 2010 to 2023. The analyzed data employed both descriptive and inferential (Fixed Random) statistical techniques. The results indicated that the TBL significantly influences firm value (Tobin's Q). The specific findings for individual variables revealed that economic performance, which serves as an indicator of economic sustainability, is significant with a z-statistic of 2.08 and a p-value of 0.038; materials, representing environmental sustainability, is also significant with a z-statistic of -2.31 and a p-value of 0.021; and the non-discrimination policy, as a measure of social sustainability, is significant, presenting a p-value of 0.000 and a z-statistic of 4.18. It is advised that Nigeria's listed non-financial institutions give priority to sustainability practices and share their sustainability performance with stakeholders to enhance their financial outcomes. Additionally, the study recommends that the government create a policy framework for sustainability disclosures and ensure adherence by establishing mechanisms and institutions for the implementation of the Global Reporting Initiative (GRI), particularly within manufacturing sectors.

Keywords: *Sustainability Disclosure, Global Reporting Initiative (GRI), Firm value, Environmental Disclosure, Economic Disclosure, Social Disclosure*.

Introduction

Issues related to sustainability disclosure have garnered interest from various stakeholder groups, particularly investors, motivated by reasons linked to competitive advantage or corporate accountability (Gerged et al., 2021). Worldwide, the investment community is progressively incorporating sustainability disclosure into its investment decisions, reflecting a commitment to sustainability and environmental issues (Gnanaweera et al.,

2018). Companies are increasingly interested in sustainability as a way to align with funding sources (Charlo et al., 2015). Through sustainability reporting, corporations publicly convey their economic, environmental, and social effects. Nonetheless, the challenge is the quality of the information provided in these sustainability reports, which has faced criticism for being subjective or inadequate in certain cases (Miralles-Quir et al., 2018).

The evaluation of a company's worth using accounting data is increasingly moving beyond the boundaries of traditional accounting practices and reporting (Kartasasmita et al., 2020). Information that positively impacts a company's value whether through stock market performance or alternative valuation methods is considered crucial and essential for investors and stakeholders. However, if this information is inaccurately presented, its reliability is jeopardized. Based on the conventional economic theory focused on maximizing wealth, the main objective of shareholders is to grow their wealth through increased income, thus, information regarding earnings is of great importance (Kumar et al., 2021). Nevertheless, studies conducted by Clark et al. (2015), Eccles and Serafeim (2013), and Mozumdar and Javalgi (2018) have shown that financial metrics are not the only factors affecting a company's value. Non-financial information featured in sustainability reports additionally affects firm value. While one can derive a company's worth from its stock price, Novianti and Kuswanto (2020) contend that accounting data is relevant and trustworthy due to its high precision in reflecting a company's economic performance. A widely accepted view regarding accounting standards is their focus on market orientation and fair value (Tarca, 2012). Consequently, if accounting information is statistically correlated with share value, it enhances the stock market valuation of the company (Mozumdar & Javalgi, 2018). The anticipated significance of accounting data arises from its statistical link to stock market valuation (Alamsyah, 2017). The importance of this value proposition pertains to how investors respond to the release of accounting information, influencing their choices and addressing investment-related issues ((Alamsyah, 2017)

The value of a firm reflects its market worth and includes both financial and nonfinancial indicators that reveal the extent of goal achievement and results (Thomas et al., 2021). The way investors perceive management's ability to anticipate and adapt to changes in the business environment affects a company's market value (Bonilla-Priego, 2021). Various methods are utilized to measure the accuracy of firm value, which aids both potential and current investors in their decision-making, as well as in financial reporting (Lalitha et al., 2020). Among these methods, Tobin's Q and book value are significant for evaluating firm value as they provide insights into a company's assets and liabilities, which are essential for facilitating financial sustainability reporting (Kartasasmita et al., 2020).

Sustainability reporting entails the publication of documents by companies that outline the environmental, social, and governance (ESG) impact of their daily activities. According to the Global Reporting Initiative (GRI), a thorough sustainability report includes disclosures related to economic (Profit), social (People), and environmental (Planet) aspects, which are vital for enhancing a company's corporate value, and incorporates corporate social responsibility (CSR), ensuring accountability to customers, employees, and stakeholders. Nevertheless, sustainability reporting faces

challenges stemming from corporate responsibilities (Beji et al., 2021).

The increasing adoption of triple bottom line reporting has led to a notable rise in sustainability disclosures (Uyar, 2016). This development has garnered the interest of investors, who recognize the significance of sustainability reporting (Cormier & Magnan, 2009). Expanding on this heightened awareness, Cormier et al. (2009) suggested that investors often favor companies that provide more detailed sustainability reports when making investment decisions.

Nonetheless, the choice to engage in sustainability reporting to enhance corporate value and the details surrounding sustainability reporting are still a matter of discussion. The impact on corporate value is still uncertain, as noted by Margolis et al. (2007). The idea of sustainability gained traction following the 1987 Brundtland Report, which highlighted the connection between human development and the environment (Bebbington & Larrinaga, 2014; Bebbington & Unerman, 2017). This momentum was further strengthened by the United Nations' Transformation Agenda, which seeks to reach specific goals by 2030. The Millennium Development Goals (MDGs), set forth by the Organization for Economic and Community Development (OECD) in 1966, were revised into the seventeen UN Sustainable Development Goals (SDGs) (Bebbington & Unerman, 2017).

The primary aim of the Sustainable Development Goals (SDGs) is to enhance social, environmental, and economic outcomes through cooperative efforts among governments and businesses worldwide (Kim, 2016; United Nations, 2019). As a result, organizations have the opportunity to contribute to advancing the UN's sustainable development initiatives by engaging in sustainability reporting. Nevertheless, the difficulties that impede companies from successfully revealing their economic, environmental, and social impacts to society and the environment may arise from their challenges in balancing these factors with their daily operations (Global Reporting Initiative [GRI], 2019). Numerous businesses are not entirely dedicated to social and environmental accountability, as their practices lead to problems such as environmental degradation, climate change, pollution, and even poverty in the communities and environments in which they operate (Aifuwa, 2020).

This tendency among companies becomes apparent in their financial reports, where they frequently declare large profits at the close of each fiscal year while possibly overlooking the welfare of both the environment and the communities in which they function (Johari & Komathy, 2019). Such a perspective could ultimately erode their long-term worth. In this regard, researchers have empirically investigated the impact of sustainability reporting on company value, yet have found results that are not definitively conclusive (Kumar et al., 2021). These ambiguous results might result from several factors, including the exclusion of non-financial aspects in assessing company value, the research methods used, and the potential lack of reliability and validity testing for the sustainability index employed. Furthermore, specialists have recognized the considerable alteration of ecosystems as a result of business practices (Kusuma & Koesrindartoto, 2014). This identified gap has fueled the drive behind the current study.

The primary objective of the study was to evaluate the impact of sustainability disclosures on the market value of publicly

traded nonfinancial companies in Nigeria. The specific aims of this research were to:

i. Investigate how economic sustainability disclosures affect the firm value of listed nonfinancial companies in Nigeria.

ii. Analyze the influence of environmental sustainability disclosures on the market value of quoted nonfinancial firms in Nigeria; and

iii. Examine the effect of social sustainability disclosures on the firm value of publicly listed nonfinancial organizations in Nigeria.

Review of Literature and Theoretical Framework

Firms' Value

The concept of firm value relates to the link between shared information and the total worth of a company. When a relationship can be identified between the information presented and changes in a company's value or capital-related information, it is referred to as having value relevance in terms of the firm. The importance of company value is an intriguing field of study for organizations because of its influence on the firm's competitive position in the market. The significance of company value is highlighted by the fact that a wide variety of the varying capabilities of firms frequently have a significant impact on shareholder wealth (Atanwah et al., 2024). This reflects a firm's ability to utilize performance indicators that clarify differences in real-time stock returns. The worth of a firm can be interpreted as the capability of both recorded values and non-financial data to affect the market values of companies (Grassmann, 2021).

The idea of firm value relevance explains how investors react to the disclosure of accounting information, which ultimately affects their decision-making and considerations regarding investments. This reaction highlights the essential role of accounting data in the investment decision process, which benefits investors (Puspitaningtyas, 2012). Likewise, it is suggested that accounting information has firm value if the shared data can be used to forecast a company's market value (Loh et al., 2017). Up to now, studies on firm value have mainly focused on financial information (Narullia, 2018), rather than on non-financial data (Helena et al., 2018; Baboukardos, 2018).

Sustainability Disclosure

The foundation of sustainability disclosure is based on the modern approach to environmental management, aiming for a harmonious balance between economic growth, social development, and the responsible use and preservation of natural resources (Barkemeyer & Holt, 2014). Corporate Social Responsibility (CSR) disclosures by companies act as indicators of their commitment to a wider array of stakeholders beyond just shareholders. These CSR disclosures go further than financial statements, posing a challenge to promote human welfare without jeopardizing ecological systems (United Nations, 2019). The increase in CSR activity disclosures is notable, with 95% of 250 global firms generating reports on their corporate social responsibility efforts, indicating its broad adoption as a common practice (Klynveid Peat Marwick Goerdeler [KPMG] International, 2017). This rise highlights companies' understanding that participating in social responsibility and openly communicating it leads to beneficial outcomes.

Sustainability reports act as essential instruments for conveying a company's dedication and effectiveness in tackling sustainability issues (Strategy et al., 2019). These reports provide a significant and clear depiction of a company's economic,

environmental, and social efforts, thereby improving operational transparency and shedding light on related risks (Hughen et al., 2014). Sustainability involves three key dimensions: economic, social, and environmental. The economic dimension relates to how a company affects the financial well-being of its stakeholders and the wider economic systems on different levels. The social aspect pertains to a business's influence on society, while the environmental dimension refers to its effects on natural ecosystems (Global Sustainability Standards Board, 2013). Sustainability reporting, or a sustainability report, is a periodic document detailing a corporation's operations. According to the Global Reporting Initiative (GRI), these reports assess and reveal organizational activities in alignment with developmental objectives and act as resources for investors to make informed decisions (Nwobu, 2016). Clear and open reporting of economic, environmental, and social activities empowers stakeholders, enhances market relationships, and assists in making wise investment decisions (Salvioni & Gennari, 2017). Importantly, the GRI G4 Guidelines include ninety-one indicators for disclosure across the ESG categories (GSSB, 2013).

Sustainability disclosure involves a company's careful representation of its impact on both society and the environment, with the objective of enhancing its positive contributions to society (Mozaffar & Serafeim, 2015). This type of reporting, often labeled as corporate social responsibility (CSR) reporting, requires the incorporation and consideration of social and environmental issues into business operations and values, followed by the communication of these initiatives (Hoque et al., 2018). It reflects a strategy that encompasses economic, social, managerial, ethical, and environmental aspects of sustainable performance (Rezaee, 2016).

Corporate Social Responsibility (CSR) refers to the initiatives that companies implement to mitigate risks affecting their stakeholders, including local communities and the environment (Pristiwati et al., 2021). It seeks to improve business value while following ethical and cultural guidelines based on the principles of People, Planet, and Profit (Bursa et al., 2012). CSR reporting includes environmental, social, and ethical efforts, and aims to minimize information asymmetry between executives and investors (Reverte, 2021). Evaluating the quality of disclosures involves analyzing the content, the methods of communication, and various aspects of the information provided (Mion & Adaui, 2020; Ore, 2015). In emerging economies, sustainability reporting is primarily voluntary, leading to varied formats of communication related to social and environmental effects (Osisioma & Benjamin, 2019)

Economic Sustainability

Economic sustainability involves a framework of production that addresses present consumption needs while protecting future requirements. The core idea of 'economic sustainability' focuses on the longevity of the economic system itself. The term 'economic sustainability' was first proposed by Hicks. 'Economic sustainability' (ES) refers to an economy's ability to maintain a certain level of gross domestic product (or ensure capital stock preservation) over a prolonged period. The development of economic policies carries a level of uncertainty since the expected results of these policies may not materialize (Baker et al., 2016).

Environmental Sustainability

Environmental disclosure (ED) involves sharing information with external parties about a company's environmental strategies, actions, and accomplishments. This practice has become a vital method for understanding the effectiveness of business sustainability initiatives (Coluccia et al., 2016; Strategy et al., 2018). Ideally, ED should address critical environmental issues and their potential impact on a company's future position and performance, uncertainties and risks, key income or expense elements, and environmental policies (Strategy et al., 2018). Environmental disclosure can be described as the act of communicating information about environmental sustainability and its long-term viability, allowing industrial companies to update various stakeholders on their activities that have environmental consequences affecting the company's operations (Coluccia et al., 2016).

Social Sustainability

Social sustainability includes the ideals of equity, empowerment, inclusion, participation, community sharing, cultural identity, and stable institutions. Its objective is to harmonize environmental conservation with economic development and the reduction of poverty. Fundamentally, 'social sustainability' represents a social framework aimed at tackling poverty.

The process of disclosure can promote transparency and share information, thereby reducing disparities in knowledge and conflicting interests between managers and investors. Consequently, agency theory posits that there is a positive relationship between social disclosure and market value, under the assumption that social disclosure is relevant to investors. Building sustainable connections between managers and investors allows companies to maintain efficiency, boosting their competitiveness by avoiding agency costs.

Sustainability Disclosures and Firms' Value

The increasing prevalence of corporate environmental and social reporting has led to a surge in the popularity of sustainability disclosures (Publishing, 2016). Gurvitsh and Sidorova (2012) analyzed sustainability disclosure as the inclusion of social and environmental information alongside economic activities within financial statements or distinct reports. This approach seeks to showcase the degree of a company's social accountability, improve its reputation, and evaluate its performance for stakeholders. The significance of firm value is rooted in the ability of information to enable quick decision-making. Information is deemed relevant if it has the potential to affect economic decisions. Among various corporate disclosures, social responsibility reporting holds considerable significance. The importance of firm value in accounting information highlights how the potential of information can influence decision-makers, leveraging historical data for predictions about the future. This significance connects previous data in financial statements to stock prices and returns (Gamerschlag, 2013).

A study by Ernst and Young (2021) revealed that almost all investors, or 98% of firms, engage with disclosures related to non-financial sustainability, and many acknowledge the importance of independently verifying these statements. The quality of accounting information is considered to be high when there is a strong relationship between the value of a firm as reflected in recorded figures and its market worth, such as the book value of equity and the company's earnings (Novianti & Kuswanto, 2020). Furthermore, relevant information offers feedback value that can

correct previous expectations. Relevant data about a company's financial condition can assist in the creation of sustainability reports, utilizing value-relevant accounting information to provide financial data necessary for meeting environmental and social obligations.

The relationship between a company's worth and its accounting information acts as a bridge between financial data and the stock prices determined by the market. This idea of corporate value is essential for illustrating a company's condition as shown in financial statements, which helps in evaluating and forecasting future performance in relation to market value through stock prices. Companies that prioritize environmental, social, and economic factors often build trust and maintain ethical practices over the long term (Sarumpaet & Nelwan, 2017).

As a result, Sustainability Reporting (SR) disclosure serves as additional information that reflects how investors view companies (Belesis et al., 2014; Gruszczyński & Kubik-Kwiatkowska, 2016). The Global Reporting Initiative (GRI), a worldwide non-profit organization, advocates for sustainability reporting through established guidelines and standards. The disclosure of sustainability can affect a company's value in several ways. Companies that implement sustainable practices often see an improvement in their reputation, which enhances investor trust; increased resource efficiency that boosts their competitiveness; and motivated employees that contribute to higher productivity, innovation, and opportunities in new markets.

Theoretical Review

Legitimacy Theory

Legitimacy theory, first introduced by Dowling and Pfeffer in 1975, is rooted in the principles of institutional and social system theories, which view organizations as complex entities that must engage with their environments to survive. This theory posits that for an organization to attain legitimate status securing societal endorsement and backing while reducing risks to its existence it must align its values with those of the social system in which it functions (Noah, 2017)

Legitimacy theory offers a framework for understanding the social and environmental information that companies disclose. It helps clarify how organizations act when they implement, develop, and communicate their social responsibility efforts (Zyznarska-Dworczak, 2018). According to this theory, businesses disclose information about their societal commitments and seek to present a positive image, thereby justifying their actions and validating their existence to stakeholders. At the heart of legitimacy theory is the concept of a social contract between society and businesses. This theory asserts that companies actively aim to align their operations with prevailing societal norms and regulations (Andriof et al., 2017). To gain societal recognition, organizations use sustainability reports to express their sense of duty towards the economy, society, and environment, with the goal of achieving societal acceptance. Thus, legitimacy can act as a valuable asset or resource for a company's long-term viability, shaped by the continuously changing environment and society in which the company operates (Porter, 2015)

Purwaningrum (2022) conducted an empirical investigation into whether the relevance of accounting information serves as a mediator for sustainability reporting disclosures, using data from the Indonesian capital market. The primary aim of the research is to gather actual data regarding the influence of profitability and accounting

caution on the disclosure in sustainability reports, with the relevance of accounting information acting as an intervening variable in manufacturing companies listed on the IDX between 2015 and 2019. The research utilizes a descriptive design, focusing on all manufacturing firms listed on the Indonesia Stock Exchange as the target population. The sampling method employed for this study is purposive sampling. The findings indicate that the disclosure in sustainability reports is influenced simultaneously by profitability, caution, and the value of accounting information. Profitability does not have a partial effect on the relevance of accounting information, while accounting prudence does have an effect. Furthermore, profitability influences the disclosure of the sustainability report, as well as the practices of accounting prudence, firm value, and profitability itself. The research concludes that business value and accounting prudence are not mediated by the relevance of accounting data, nor is profitability mediated by the relevance of accounting information in relation to the disclosure of the sustainability report.

Florenzcia and Christiawan (2022) conducted a study examining firm value, sustainability reporting awards, and board structure, with a focus on companies in Indonesia. The aim of the research is to assess whether there is a relation between firm value and sustainability reporting, and to determine if board structure contributes to companies winning awards. The study analyzed a model consisting of 29 firms that had received the Sustainability Reporting Award (SRA) at least once from 2014 to 2019, using six years of data. The study measured the value of accounting data and sustainability reporting through Ohlson's model, evaluated via variations in R2. To represent board structure, the researchers used board independence, frequency of board meetings, and board size. The analysis was performed using Smart PLS software. The findings indicated that, according to the R2 value, the information regarding the acquisition of the SRA does not add to the firm's value. It remains unchanged, and its relationship with stock prices is minimal. This research is corroborated by studies conducted by Juniarti et al. (2019), who assert a positive correlation between social and environmental disclosures and firms' value in Indonesia.

Sutopo and Kot (2018) utilized the Award for Reporting on Sustainable Development (SRA) success as a benchmark to evaluate and compare companies in Indonesia that have received high ratings in sustainability reporting against those that have not. The research involved a sample of up to one hundred and ten SRA winners (SRA firms) and one hundred and ten firms that did not receive the SRA from 2008 to 2016. The study affirmed that accounting information is indeed a crucial performance metric, which includes measures such as book value per share (BVPS), earnings per share (EPS), and changes in earnings per share (EPSC). The findings indicate that the value of companies, as reflected in certain accounting metrics, is greater for SRA firms and lesser for their counterparts when comparing SRA and non-SRA firms. This study relates to the current research as it seeks to examine how sustainability reporting contributes to increasing the value of firms in the country.

In a similar vein, Bernardi and Stark (2018) examined the demand among equity market participants for such disclosures, as well as the significance of environmental and social initiatives. Their research results indicated that this information is sought after and holds value for those in the equity market, and that revealing environmental

and social actions is pertinent to a company's worth.

Choi (2021) examined the importance and implications of greenhouse gases from the perspective of Australian businesses during the period from 2009 to 2015. Their empirical study revealed an inverse relationship between a company's market value and its level of direct emissions. This indicates that companies are penalized in the stock market for having low disclosure ratings or for underperforming in terms of carbon management.

Choi and Han (2020) examined the corporate environmental performance (CEP) among a sample of businesses in Korea. They utilized both the green performance construct and human climate performance metrics, which were derived from the total of various indicators, as two proxies for measuring CEP. The results of their study indicated that better environmental performance significantly boosts corporate value, highlighting the importance of CEP in relation to value.

Iredele and Adegbite (2018) carried out a recent investigation in Nigeria examining the effects of corporate social and environmental disclosures on the monetary value of 84 publicly listed companies. Although the analysis of social and environmental disclosures focused on these non-financial factors, Tobin's Q metric was employed to assess business value. The results of the study indicated that corporate social and environmental disclosures had a negative and significant effect on market value. This indicates an inverse relationship, meaning that an increase in these non-financial disclosures corresponds with a decrease in market value ,When the market value of the company increases, it will decrease. This finding differs from most studies carried out in Nigeria, which the authors link to the limited presence of ethical investors in the country who prioritize social and environmental issues.

Amedu et al. (2019) examined the significance of sustainability reporting among industrial companies in Nigeria. The research focuses on the effectiveness of sustainability reporting for these firms. A longitudinal research design was utilized in this study. A sample of thirty companies was randomly selected from the trading floor of the Nigerian Stock Exchange. The study relied on secondary data sourced from annual reports spanning the years 2010 to 2018. Panel data regression was employed to test the hypotheses. The results indicated that the sustainability reporting practices of listed manufacturing companies regarding their social and economic impacts were beneficial.

Nnaemeka et al. (2017) examined the influence of sustainability reporting and accounting on financial performance. They assessed sustainability reporting through social responsibility expenses and the total personal cost to turnover ratio, while financial success was defined by Return on Assets and Return on Equity. The research concluded that the proportion of total equity to total assets does not significantly affect ROA.

In a similar vein, Yahaya et al. (2015) examined the relationship between corporate financial performance (CFP) and social responsibility (CSR) disclosures among publicly listed companies in Nigeria. The findings reveal that when companies include environmental information in their annual reports, it leads to a decline in their financial performance, both in terms of accounting metrics and market measures. This implies that environmental disclosures by Nigerian firms might be perceived negatively. Furthermore, the study identified a significant positive correlation between

community engagement, informational transparency, and accounting performance (ROA), although the relationship with market performance (Share Price) was found to be minimal. Additionally, disclosures related to human resources showed a strong positive connection with ROA, while their impact on share price remained neutral.

Methodology

This study utilized a longitudinal study approach to achieve the objectives set by the researcher, while also taking into account an ex-post facto design for collecting data. The study population consists of all 108 non-monetary organizations that were listed on the Nigerian Exchange as of December 31, 2023. A purposive sampling method was employed to select 30 listed companies on the Nigerian Exchange for the period from 2010 to 2023.

The information was sourced from the annual reports of the selected sample companies, which are critical documents that organizations utilize to engage with their shareholders and other stakeholders. Data on sustainability disclosures (independent variable) were gathered through content analysis. These independent variables were evaluated using a scoring index that is based on the indicators from the Sustainability Reporting Index outlined in the Global Reporting Initiative Guidelines G4 (GRI G4), while firm value was calculated using a ratio. The research employed both qualitative and quantitative statistical methods. Descriptive statistics, including the mean, median, mode, and standard deviation, were utilized to summarize each variable. Additionally, the study conducted panel regression using Stata 14 for the inferential analysis since panel data was employed. The model is structured in accordance with previous research conducted in Nigeria regarding Sustainability Disclosures and Firm Market Value in Emerging Economies. Below are the model and its functional and econometric forms.

$TOBINSQ_{\mu} = \alpha_0 + \beta_1 ENVI_{\mu} + \beta_2 SOCI_{\mu} + \beta_3 GOVI_{\mu} + \beta_4 FSIZE_{\mu} + \beta_5 FAGE_{\mu} + e_{\mu}$

Where:

Tobin's Q = Market Value of Equity plus Book Value serves as a proxy for a company's value.

Ratio of Total Debt to Total Assets

where

β0 = Intercept estimates

β_{1-6} = Coefficient of the independent variables

e = error term

TSQ Tobin's Q

ENVI= Environment Sustainability Principal Component Index

SOCI Social Sustainability Principal Component Index

ECO= Economic Sustainability Principal Component Index

SIZE= Firm Size

AGE= Firm Age

Analysis and Interpretation of Results

The data were accessed using qualitative statistics and inferential statistics, followed by statistical explanations and, discussion of the implications of the findings on the study.

Variables	Obs	Mean	S.D	MIN	MAX	P.Value
Tobins'Q	420	1.279	1.498	.02	11.2	0.0000
Economic performance	420	.8519	.1322	.5	1	0.0000
Market performance	420	.8755	.1494	0	1	0.0000
Indirect economic impact	420	.29063	.0439	0	.3333	0.0000
Procurement	420	.9686	.1390	.3333	1	0.0000
Energy	420	.4170	.3500	0	1	0.0000

Materials	420	.54550	.2409	0	1	0.0092
Environmental compliance	420	.9326	.2216	0	1	0.0000
Emissions	420	.1546	.2866	0	1	0.0000
Occupational health and safety	420	.7968	.2542	0	1	0.0000
Training	420	.8418	.2037	0	1	0.0000
Non-discriminatory policies	420	.8774	.3127	0	1	0.0000
The rights of indigenous people	420	.7665	.2236	0	1	0.0000
Firm Size	420	7.074	.9234	4.76	9.38	0.17258
Firm Age	420	31.998	12.09	2	57	0.00161

Source: Researcher's Computation (2024)

The result related to the qualitative statistics are detailed in Table 4.1 above, which shows that the average firm value, measured by Tobin's Q, is 1.279 with a standard deviation of 1.498. This indicates a moderate range of variation in firm value among the multinational corporations sampled, based on its distance from the mean. Similarly, the average book value for the firms is 10.7627 with a standard deviation of 14.594, suggesting a significant variation in the book value of the manufacturing companies sampled, considering its closeness to the mean value. The company with the lowest book value has a figure of -10.73, while the highest stands at 84.26.

The findings indicate that the average economic performance is .8519, with a standard deviation of 1.322, suggesting a moderate level of variation in the economic performance of the manufacturing companies sampled.

Given its closeness to the average figure, the manufacturing firms that exhibited the lowest economic performance attained a score of 0.5, while the highest was 1. Additionally, as presented in Table 4.1, the descriptive statistics of market performance reveal that, on average, manufacturing companies demonstrate a market performance of .8755, accompanied by a standard deviation of .1494, which indicates a moderate variation in market performance among the sampled firms. Reflecting on its proximity to the mean value, the manufacturing firms with the lowest market performance scored 0, while the highest score is 1.

Table 4.1 indicates that the average indirect economic impact stands at .29063, accompanied by a standard deviation of .0439, suggesting considerable variation in the indirect economic impact among the manufacturing companies surveyed in relation to the mean value. The lowest indirect impact for these companies registered at 0, while the highest reached 0.3333. Additionally, Table 4.1 shows that procurement practices have a mean value of .9686 and a standard deviation of .1390, reflecting significant variation in the procurement approaches of the sampled manufacturing firms when compared to the mean value. The companies with the lowest sustainable procurement achieved a score of 0.3333, with the highest score being 1. The total sustainable procurement amounted to 546.33. The data for this variable exhibits a negative skew and a peak that conforms to normal distribution, with skewness recorded at -4.28 and kurtosis at 19.490. The Jarque-Bera test assessing the normality of the data indicates that it is not normally distributed;

the test statistics stand at 1068.7 with a P-value of 0.0000, signifying significance for the null hypothesis of abnormality at P<0.05.

Additionally, Table 4.1 shows that sustainable energy has an average value of .4170 and a standard deviation of .3500, suggesting a moderate level of variability in the disclosure related to energy among the manufacturing companies surveyed, relative to the mean value. The companies exhibiting the lowest energy disclosure received a score of 0, while the highest score recorded is 1. Furthermore, as indicated in Table 4.1, sustainable materials have an average value of .54550 with a standard deviation of .2409, which denotes a moderate variation in the material usage of the companies sampled, considering its distance from the mean value. The company with the least utilization of sustainable materials scored 0, whereas the maximum score is 3.

Environmental compliance exhibits a mean of 0.9326 and a standard deviation of 0.2216, indicating a moderate level of variation in the environmental compliance of the multinational corporations surveyed, given its proximity to the mean value. The company with the lowest environmental compliance score recorded a 0, while the highest score reached 1. Similarly, emissions have a mean of 0.1546 with a standard deviation of 0.2866, reflecting a moderate variation in emissions among the sampled companies based on their distance from the mean value. The total emissions amount to 86.761, and the squared sum of total deviation is 0.0121. The company with the lowest emission score achieved a 0, whereas the maximum score is 1.

Environmental compliance exhibits a mean of 0.9326 and a standard deviation of 0.2216, indicating a moderate level of variation in the environmental compliance of the multinational corporations surveyed, given its proximity to the mean value. The company with the lowest environmental compliance score recorded a 0, while the highest score reached 1. Similarly, emissions have a mean of 0.1546 with a standard deviation of 0.2866, reflecting a moderate variation in emissions among the sampled companies based on their distance from the mean value. The total emissions amount to 86.761, and the squared sum of total deviation is 0.0121. The company with the lowest emission score achieved a 0, whereas the maximum score is 1.

The average value for employee training is .8418, with a standard deviation of .2037, indicating a moderate level of variation in employee training among the surveyed manufacturing companies. Considering the distance from the mean value, the overall total for employee training is 474.77, while the sum of the squared total deviations is .0085. The firm with the lowest score in employee training recorded a score of 0, whereas the highest score reached 1.

he non-discriminatory policy exhibits a mean value of .8774 and a standard deviation of .3127, indicating a moderate level of variation in the non-discriminatory policy among the sampled manufacturing companies relative to the mean. The manufacturing company with the lowest score for non-discriminatory policy received a score of 0, while the highest score is 1. Additionally, as shown in table 4.1, the mean value for upholding the rights of indigenous people is .7665 with a standard deviation of .2236, suggesting a moderate variation in the protection of indigenous people's rights among the sampled manufacturing companies in relation to the mean. The manufacturing companies with the lowest score for maintaining indigenous people's rights also scored 0, whereas the maximum score is 1.

In Table 4.1, the average firm size is recorded at 7.0749, with a standard deviation of .9234, indicating a moderate degree of variation among the firm sizes of the selected manufacturing companies, especially when considered in relation to the mean. The smallest firm size observed is 4.76, while the largest is 9.38. Additionally, Table 4.1 demonstrates that the average firm age is 31.998, accompanied by a standard deviation of 12.0991, suggesting a moderate variability in firm age among the manufacturing companies surveyed, particularly in relation to the mean. Statistical analysis was conducted to determine the impact of economic sustainability on the various proxies of the dependent variable.

Table 4.2: Panels Corrected Standard Errors Regression

Tobins'Q	Coef.	Std. Err.	z	P>|z|
ECP	.7503196	.3611815	2.08	0.038
MKP	.9108869	.3241727	2.81	0.005
IEI	-1.024807	1.103366	-0.93	0.353
PCR	.5082917	.338382	1.50	0.133
FSZ	.0118573	.0500873	0.24	0.813
FAG	.0086906	.0038487	2.26	0.024
_cons	-2.289356	.6908055	-3.31	0.001
R-sq = 0.0350		Number of obs =		564
Wald chi2(6) = 20.47		Prob > chi2 =		0.0023

Source: Researcher's Computation (2024)

The results from the regression analysis illustrate the impact of economic sustainability measures specifically economic performance, market presence, indirect market impact, and procurement on firm value as measured by Tobin's Q, as presented in Table 4.2. According to Table 4.10, an R-squared value of 0.0350 indicates that economic sustainability accounts for a minimal 3.50 percent variation in the market value of Nigerian industrial firms. The overall findings suggest that the facets of economic sustainability significantly affect the value of the sampled manufacturing businesses in Nigeria. The individual variable results in Table 4.10 indicate that economic performance, as a dimension of economic sustainability, is significant, with a z-statistic of 2.08 and a p-value of 0.038. This suggests that if manufacturing firms can achieve sustainable economic performance, their value will positively enhance. These findings are consistent with the research conducted by Hassan and Musa (2015), which revealed a significant and positive relationship between both economic and social sustainability and business value, following their examination of the link between sustainability reporting factors and company value in the non-financial sector. The segments of the Nigerian stock market employ a static model supported by legitimacy theory.

Assessment of Environmental Sustainability and Firm Value of Listed Manufacturing Firms in Nigeria

Table 4.3: Panels Corrected Standard Errors Regression

Tobins'Q	Coef.	Std. Err.	z	P>|z|

ENG	-.2247471	.1385461	-1.62	0.105
MAT	-.5276633	.2286995	-2.31	0.021
ECP	.1041548	.2107551	0.49	0.621
EMS	-.0722885	.1902563	-0.38	0.704
FSZ	-.0380709	.0500111	-0.76	0.447
FAG	.0045601	.0040131	1.14	0.256
_cons	-2.289356	.6908055	-3.31	0.001
R-sq = 0.0277		Number of obs =		564
Wald chi2(6) = 16.05		Prob > chi2 =		0.0135

Source: Researcher's Computation (2024)

The regressed results indicate how various measures of environmental sustainability—specifically energy, materials, compliance with environmental regulations, and emissions—impact the value of firms as measured by Tobin's Q in Table 4.3. According to Table 4.3, the findings reveal an R-square value of 0.0277, which indicates that environmental sustainability accounts for a slight variation of 2.77 percent in the firm values of Nigerian manufacturing companies. The overall findings suggest that the measures of environmental sustainability significantly affect the firm value of the selected Nigerian manufacturing firms. The individual results for the variables, presented in Table 4.3, reveal that materials, as a measure of environmental sustainability, are significant, with a z-statistic of -2.31 and a p-value of 0.021, indicating that the methods used by manufacturing companies to assess materials are not environmentally sustainable and negatively influence firm value. Table 4.3 also shows that no other measures of environmental sustainability are statistically significant, including the two control variables in the model: firm age and firm size.

Assessment of Social Sustainability and Firm Value of Listed Manufacturing Firms in Nigeria

Table 4.4: Panels Corrected Standard Errors Regression

Tobins'Q	Coef.	Std. Err.	z	P>|z|
OHS	-.0016097	.2707428	-0.01	0.995
ETE	.0986474	.3176354	0.31	0.756
NDP	.4155402	.0993061	4.18	0.000
RIP	.7139733	.2614851	2.73	0.006
FSZ	-.0684264	.0671427	-1.02	0.308
FAG	.0050767	.0055131	0.92	0.357
_cons	.607344	.5775082	1.05	0.293
R-sq = 0.0278		Number of obs =		564
Wald chi2(6) = 39.37		Prob > chi2 =		0.0000

Source: Researcher's Computation (2024)

The results presented in Table 4.4 indicate the impact of social sustainability measures—such as occupational health and safety, employee training and education, non-discrimination policy, and the rights of indigenous people—on Tobin's Q, which reflects business value. Additionally, as shown in Table 4.30, the R-square value of

0.0278 suggests that social sustainability accounts for a minor variation of 2.78 percent in the firm values of manufacturing businesses in Nigeria. Overall, the findings indicate that social sustainability measures significantly affect the firm value of the manufacturing firms sampled in Nigeria. The individual results for the variables detailed in Table 4.30 reveal that the non-discrimination policy, as a component of social sustainability, is significant with a p-value of 0.000 and a z-statistic of 4.18, indicating that implementing a sustainable non-discriminatory policy can enhance a firm's value. Moreover, it is noted that the two control variables included in the model—firm age and firm value—are not influenced by the company's size.

The results of this study align with those of earlier researchers such as Hongming et al. (2020), who explored the significance of sustainable financial reporting on business performance in Pakistan, particularly among non-financial companies. Two regression models were employed, and the results indicate a positive effect of various forms of sustainability on firm performance. Loh et al. (2017) examined the relationship between firm sustainability and business value by analyzing listed companies in Singapore and discovered that environmental performance reporting is associated with business value using a well-known framework. The findings demonstrated that there is a positive correlation between sustainability reporting and a company's market value.

Conclusion and Recommendations

The transparency of sustainability practices has a positive effect on the market capitalization of non-financial companies in Nigeria. Furthermore, the study reaches the following conclusions:

i. Disclosures related to economic activities have a beneficial impact on the value of firms, as measured by Tobin's Q, among the selected non-financial companies listed in Nigeria.

ii. Disclosures concerning environmental activities show a positive effect on the value of firms, reflected in Tobin's Q, for the chosen non-financial firms listed in Nigeria.

iii. Disclosures on social activities positively influence the value of the company as well as Tobin's Q for the sampled non-financial companies in Nigeria.

The results indicate that investors in Nigeria should appreciate the importance of sustainability practices and consider putting their money into companies that prioritize these efforts. The research also highlights that companies that share sustainability information often have greater firm value, emphasizing the crucial role of sustainability disclosure in evaluating firms' worth. Additionally, the study points out the need for listed non-financial companies in Nigeria to prioritize sustainability practices and report their sustainability performance to stakeholders. This approach not only enhances the firm value of these companies but also promotes sustainable development throughout Nigeria.

According to the results of the study, the following suggestions were put forward: i. The government should create a policy framework for sustainability disclosures in Nigeria and ensure adherence by establishing mechanisms for implementing the Global Reporting Initiative (GRI) within the country. ii. Additionally, when allocating resources for financial disclosure, companies should prioritize meeting the needs of their stakeholders including customers, investors, employees, and communities while recognizing their expectations and concerns

regarding sustainability. iii. Responsible business practices ought to be developed to enhance quality perception, resulting in increased loyalty and profitability.

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