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SUSTAINABILITY REPORTING AND MARKET CAPITALIZATION OF LISTED INDUSTRIAL GOODS FIRMS IN NIGERIA

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ABSRACT

Sustainability reporting is fast gaining momentum the world over both in developed and developing economies. However, there still exists debate surrounding the worthwhileness of sustainability reporting. This study therefore examined the effect of sustainability reporting on market capitalization of listed industrial goods firms in Nigeria. Specifically, it examined the effect of environmental, economic and social sustainability disclosures on market capitalization of listed industrial goods firms in Nigeria. This study adopted ex-post facto research design using panel data for 10years (2013 - 2022); A sample size of all the twelve (12) listed industrial goods firms were selected from the population.. Data was analysed using descriptive, correlation and multiple regression analysis. The study findings revealed that environmental sustainability disclosure (Coeff. = -0.5663{0.2202}) and economic sustainability disclosure (Coeff. = -0.5349{0.6955}) have insignificant negative effect on market capitalization of listed industrial goods firms in Nigeria while economic sustainability disclosure (Coeff. = 1.2423{0.0019}) has a significant positive effect on market capitalization of listed industrial

goods firms in Nigeria. In conclusion, economic sustainability disclosure has positive influence on the market capitalization of industrial goods in Nigeria. Therefore, it is recommended that firms should prioritize implementing of sustainable economic practices, such as cost-efficiency measures and responsible financial management, and ensure that these efforts are well-documented in sustainability reports to attract investors and enhance market value

Keywords: *Sustainability reporting, market capitalization, industrial goods, and corporate reporting.*

1.0 INTRODUCTION

World Commission on environment development defined sustainability as the level of human consumption and activity which can continue in the foreseeable future so that the systems which provide goods and services to human persist indefinitely (WECD, 1987). Sustainability reporting as described by Elkington (2004) is the integration of the reporting and accounting for social, environmental and economic issues in corporate reporting or simply "Triple bottom line reporting." This concept can be likened to earlier ideas like the accounting for human resource and social audits of 1970's, triple bottom line reporting and environmental reporting in the 1990's, corporate social responsibility reporting and various versions of the Global Reporting Initiative (GRI) guidelines (Nangih, et al., 2022).

Sustainability reporting as part of corporate reporting is fast gaining momentum the world over both in developed and developing economies. This was evidenced in the statistics from Global Reporting Initiatives (GRI, 2011). According to Peiyuan, et al (2007) the number of enterprises writing sustainability reports based on GRI framework worldwide increased from 150 in 2002 to 750 in 2005. From 1st January to 31st December, 2010, the number of sustainability reports registered on the GRI reports lists increased by 22% (GRI, 2011). The Global reporting initiatives is the most prevalent guideline in the world; this framework enables measurement and reporting on three key areas of sustainability – environmental, social and economic performance.

It is important that this profit is maximized through activities that seek to integrate social and environmental considerations into the decision-making process (Asuquo, et al 2018). Some scholars argued that corporations can ensure long term financial success by meeting the needs of other stakeholders (Ballou, et al, 2005; Unerman, et al, 2007). However, corporations may be unsure of how the market would react to their corporate sustainability reporting (Akpan & Uwakmfonabasi, 2021). If the initiatives are favorable, investors may be interested in the firm due to increase in the price of the stock hence decide to invest.

However, there still exists debate surrounding the worthwhileness of sustainability reporting. Ingram and Frazier (1980), mentioned the cost factor associated with disclosure, such as the collection of data, process, compilation of information, analysis and the writing and publication of a sustainability report, the whole process can be seen as costly and irrelevant by investors, thereby producing a negative valuation effect. Similarly, as pointed out by Ingram and Frazier (1980), there is a common concern regarding the usefulness of this type of disclosure due to potential credibility and comparability issues.

Extant literature on sustainability reporting lacks consensus as previous studies revealed mixed findings. Some studies conducted in Nigeria (for instance, Onoh, et al., 2023; Nangih, et al., 2022; Theophilus & Ademola, 2020; Okechukwu & Okeke-muogbo, 2020) documented a significant positive relationship between sustainability reporting and various measures ranging

from financial performance, market value, earnings quality to stock valuation. Still in Nigeria, other studies such as Nurhasimah, *et al.* (2016) revealed an insignificant positive relationship. Invariably, some studies (for instance, Putri & Suputra, 2019; Wasara & Ganda, 2019) carried out in other developed and emerging economies such as India and Indonesia also proved the existence of a positive relationship while others (such as, Qamruzzaman, et al, 2021; Rizzato et al., 2019; Yusoff & Darus, 2014) revealed an insignificant negative relationship between the variables under study. This therefore generates a big research gap which the present study seeks to fill. The general objective of this study is to investigate the effect of sustainability reporting on market capitalization of listed industrial goods firms in Nigeria. The independent variables were proxied by environmental sustainability, economic sustainability disclosures, and social sustainability disclosures, while the dependent variable was proxied by market capitalization. This study examined the effect of sustainability reporting on market capitalization of listed industrial goods firms in Nigeria, The specific objectives were to;

7) examine the effect of environmental sustainability disclosures on market capitalization of listed industrial goods firms in Nigeria
8) evaluate the effect of economic sustainability disclosures on market capitalization of listed industrial goods firms in Nigeria.
9) assess the effect of social sustainability disclosures on market capitalization of listed industrial goods firms in Nigeria.

Research hypotheses

Based on the research objectives, the following research hypotheses were developed to guide the study and stated in the null form as follows;

Ho_1: Environmental sustainability disclosure has no significant effect on market capitalization of listed industrial goods firms in Nigeria.

Ho_2: Economic sustainability disclosure has no significant effect on market capitalization of listed industrial goods firms in Nigeria.

Ho_3: Social sustainability disclosure has no significant effect on market capitalization of listed industrial goods firms in Nigeria.

Following the introduction in section one, section presents the conceptual, theoretical and empirical review of the study. Section three discusses the methodology, section four presents the results, section five presents the findings, while section six concludes and gives recommendations.

2.0 Literature Review

This section reviews the conceptual, theoretical and empirical literature.

Conceptual framework

Corporate sustainability reporting has been the subject of extensive research in last decades but there is no single, generally accepted definition of sustainability reporting. One widely-used definition of corporate sustainability report identifies it as "public reports by companies to provide internal and external stakeholders with a picture of the corporate position and activities on economic, environmental and social dimensions" (WBCSD, 2002). Sustainability Reporting (SR) refers to a voluntarily organization's activity with two general purposes; to assess the current state of an organization's economic, environmental and social dimensions, and to communicate an organization's efforts and sustainability progress to their stakeholders. Jasch and Stasiskiene (2005) defines sustainability reporting as a subset of accounting and reporting that deals with activities, methods and systems to record, analyze and

report, firstly, environmentally and socially induced financial impacts and secondly, ecological and social impacts of a defined economic system.

Sustainability reporting is becoming more prevalent, driven by a growing recognition that sustainability related issues can materially affect a company's performance (Udo, Akapan & Uford 2024), demands from various stakeholder groups for increased levels of transparency and disclosure and the need for companies (and the business community more generally) to appropriately respond to issues of sustainable development (Okpo & Simeon, 2023).

Sustainability reporting

In general, there are 79 indicators of GRI index shared into these 3 major categories. This would be discussed below as:

Environmental indicators

The environmental dimensions of sustainability concern an organization's impacts on living and non-living natural systems, including ecosystems, land, air and water (Uto, Uwa & Akpan, 2024). Ecological indicators cover performance related to inputs (e.g. material, energy, water). Ecological indicators include materials used by weight and volume, energy both direct and indirect consumed from primary energy source, energy served due to conservation and efficiency improvements, water, biodiversity, emissions, effluents and waste, products and services, compliance, transport and general total environmental protection expenditures and investment by type (GRI 2016, section 300).

Economic indicators

According to Global Reporting Initiative (2016) section 200, the economic aspect of sustainability concerns the organization's impacts on the economic conditions of its stakeholders and economic systems at local, national and global levels. The economic indicators illustrate the flow of capital among different stakeholders and main economic impacts of the organization throughout the society (Uwa, 2021). They include economic performance, market presence, indirect economic impacts and procurement practices, anti-corruption and anti-completion behavior Economic performance which is direct economic value generated and distributed including; revenues, operation cost, employee compensation, donations and other community investments and other risks and opportunities for the organization's activities due to climate change, coverage of the organization's defined benefit plan obligations. Significant financial assistance received from government, market presence which explains the range of ratios of standard entry level wage compared to local minimum wage at significant locations of operation, policy, practices and proportion of spending on locally based suppliers' and significant locations of operations, procedure for local hiring and proportion of senior management hired from the local community at significant location of operations.

Social Indicators:

GRI (2016) section 400 puts it that social impact aspect of sustainability concerns the impacts an organization has on the social systems within which it operates. These indicators are fragmented into employment, labour/management relations, occupational health and safety, training and education, diversity and equal opportunity, non-discrimination, freedom of association and collection barging, child labour, forced or compulsory labour, security practices, rights of indigenous people, human rights assessment, local communities, supplier social

assessment, public policy, customer health and safety, marketing and labeling, customer privacy and socioeconomic compliance.

2.2 Concept of market capitalization

Market capitalization, commonly known as market cap, is a crucial metric used in finance to determine the size and value of a company in the stock market. It is calculated by multiplying the current share price of a company by its total outstanding shares (Damodaran, 2012). Market cap provides valuable insights to investors and analysts regarding the overall valuation of a company and its ranking in the market relative to other companies. Market capitalization serves as an indicator of investor sentiment towards a company. A higher market cap typically reflects greater investor confidence in the company's future prospects and profitability, whereas a lower market cap may signal perceived risks or uncertainties (Damodaran, 2012). Market cap is a useful tool for investors to gauge market perceptions and make informed investment decisions.

Market capitalization is often used to classify companies into different size categories, such as small-cap, mid-cap, and large-cap. These classifications help investors assess the risk-return profile of investments and make strategic portfolio allocations based on their investment objectives (Capaul et al., 2017). Understanding the market cap segment of a company provides insight into its growth potential and risk profile. Moreover, market capitalization plays a vital role in various investment strategies, including index investing and sector rotation. Index funds, which aim to replicate the performance of a market index, allocate investments based on the market cap of individual companies within the index. Sector rotation strategies involve reallocating investments among sectors with varying market cap compositions to capitalize on changing market trends.

Environmental sustainability reporting and market capitalization

Environmental sustainability reporting refers to the communication of environmental initiatives, impacts, and performance metrics by companies to stakeholders, including investors, regulators, and the public (Akapan & Uford. 2024a). Market capitalization, on the other hand, represents the total value of a company’s outstanding shares in the stock market and is considered a key indicator of a company’s size and valuation. Studies have shown that there is a significant positive relationship between environmental sustainability disclosure and market capitalization of listed industrial goods firms. According to Akintoye *et al*. (2018) and Okpo et al (2024) companies that provide transparent and comprehensive disclosure of their environmental sustainability practices tend to attract more investors and enjoy higher market valuations. Investors are increasingly considering environmental factors, such as carbon emissions, waste management, and resource efficiency, in their investment decisions, leading to higher demand for companies with strong environmental performance.

Environmental sustainability disclosure can enhance a company’s reputation, build trust among stakeholders, and demonstrate its commitment to sustainable business practices. This, in turn, can positively impact the company’s market capitalization by attracting socially responsible investors, enhancing brand loyalty (Akapan & Uford, 2024b), and mitigating reputational risks associated with environmental controversies. Companies that effectively communicate their environmental initiatives and performance metrics can distinguish themselves in the marketplace and gain a competitive advantage in terms of market capitalization. Moreover, environmental sustainability disclosure can influence the perceptions and behaviors of institutional investors, who play a significant role in shaping the market capitalization of listed industrial goods firms.

Institutional investors increasingly consider environmental, social, and governance (ESG) factors in their investment strategies and decision-making processes (Hong & Kacperczyk, 2009). Companies that proactively disclose their environmental sustainability efforts are more likely to attract investments from ESG-focused funds and institutional investors, leading to higher market capitalization and shareholder value.

Economic sustainability reporting and market capitalization

Economic sustainability reporting involves communicating a company's economic impacts, performance, and strategies to stakeholders, including investors, analysts, and regulators (Gray, 2010). Market capitalization, as previously mentioned, represents the total value of a company's outstanding shares in the stock market and is a key indicator of investor sentiment and confidence in a company's future prospects. Studies have shown that there is a positive relationship between economic sustainability reporting and market capitalization of listed industrial goods firms in Nigeria. Oluwaseun *et al*. (2020) suggests that companies that disclose transparent and reliable economic performance data tend to enjoy higher market valuations and attract a more diverse investor base. Investors are increasingly interested in companies with strong financial management practices, sound governance structures, and proactive risk management strategies, all of which are reflected in economic sustainability reports.

Social sustainability reporting and market capitalization

Social sustainability reporting involves disclosing a company's social impacts, initiatives, and performance in areas such as community development, employee well-being, and environmental stewardship to stakeholders (Dumay & Garanina, 2013). Market capitalization, as previously mentioned, reflects investor perceptions of a company's growth prospects, risk exposure, and overall value in the stock market. Studies have indicated a positive relationship between social sustainability reporting and market capitalization of listed industrial goods firms in Nigeria. Ojo et al. (2019) suggests that companies that actively engage in social sustainability reporting tend to experience higher market valuations, improved access to capital, and enhanced reputation among investors and customers. Investors are increasingly looking beyond financial metrics to evaluate a company's societal impacts, ethical practices, and commitment to sustainable development, all of which can influence market perceptions and investor sentiment.

In the view of Emeka-Nwokeji (2019), firm's market value is influenced by investors' perceptions of its managers' ability to anticipate and respond to future changes in the firm's economic environment. The forward-looking, capital market-based measure of the value of a firm is Tobin's q. Tobin's q was first introduced by Kaldor (1996) as cited in Emeka-Nwokeji (2019), as a ratio between a physical assets market value and its replacement cost. In 1968, it was reintroduced by William and Tobin. The letter "Q" did not appear until Tobin published an article titled a general equilibrium approach to monetary theory in the journal of money, credit and banking in 1969. Tobin's Q, is the ratio of the market value of equity (fiscal year-end price times number of shares outstanding) plus book value of debt (total assets less book value of equity) to total asset. It reflects the market's expectation of future earnings and thus a good proxy for firm value. Tobin's Q has gained wide acceptance as a measure of a firm value

Theoretical Framework

Stakeholder Theory by Edward Freeman (1984)

The stakeholder theory was propounded as a result of the battles between Berle and Dodd in 1930s with later developments usually referring back to R. Edward Freeman. This theory was developed by Freeman (1984) by incorporating corporate accountability to a broad range of stakeholder. Dodd believed that directors are the trustees of corporations, with the result that they have to balance the interest of all constituents of companies and behave in a socially responsible behavior. There are three aspects of the theory; instrumental power, descriptive accuracy and normative validity. The first aspect of the theory creates a framework for checking the connections between the practice of stakeholder management and the success of a corporation's performance. The second aspect of the theory is used to described particular corporations' behavior. The normative validity as a fundamental basis of the theory used to interpret the purpose of companies. Because the objective of corporation is key issue of corporate governances, the normative validity is the central core of the theory. The stakeholder theory is a theory of organizational management and business ethics that accounts for multiple constituencies impacted by business entities like employees, supplies, local communities, creditors and others. It addresses morals and values in managing an organization, such as those related to corporate social responsibility, market economy, and social contract theory. Stakeholder theory succeeds in becoming famous not only in the business ethics fields. It used as one of the frameworks in corporate social responsibility methods.

Empirical review

Emenyi and Okpokpo (2023) investigated the relationship between environmental disclosure and the quality of financial reports within the Nigerian manufacturing sector. The study reported that, among the three components of environmental accounting information examined, namely Environmental Restoration (ER) and Environmental Donations and Sponsorship (EDS), only Environmental Waste Management was found to have a significant impact on the quality of financial reports among the selected manufacturing firms in Nigeria. The null hypotheses for Environmental Restoration and Environmental Donations and Sponsorship were reported as accepted, signifying that these factors did not exert a significant influence on financial report quality. The study concluded that the disclosure of accounting information pertaining to environmental restoration and environmental donations and sponsorship in the past had an insignificant effect on the quality of financial reports for manufacturing firms in Nigeria. The recommendation highlighted the suggested collaboration between standard setters, policy makers, and the Ministry of Environment to institute consistent mandatory disclosures aligned with global best practices, aiming to enhance transparency and accountability in environmental reporting by manufacturing firms in Nigeria.

Onoh, et al (2023) examined the effect of sustainability reporting practices of environmental, social and economic on the firm value proxied by Tobin's Q of listed oil and gas firms in Nigeria. The work relied mainly on secondary source of data and comprised of published annual reports. The analytical tools consist of descriptive and correlation matrix. The hypotheses were tested using multiple regression. The research answered that; environmental sustainability reporting has a positive significant effect on the value of listed oil and gas firm in Nigeria. Also, economic sustainability reporting has a negative significant effect on the value of listed oil and gas firm in Nigeria. The result also showed that firm characteristics proxied by

sales growth and leverage exerts a negative significant effect, whereas, firm size exerts a positive significant effect on sustainability reporting and firm value of oil and gas companies in Nigeria.

Udomah and Emenyi (2023) delved into the impact of sustainability reporting on the financial performance of selected cement firms in Nigeria, employing an ex-post facto research design with a population comprising 10 cement firms spanning the years 2016-2020. The key findings indicated a negative and insignificant correlation between environmental reporting and the performance of cement companies in Nigeria. Conversely, economic reporting demonstrated a positive influence on the financial performance of these cement firms, while social reporting was associated with a decrease in their financial performance. The overall conclusion drawn was that sustainability reporting significantly affects the composite financial performance of healthcare companies in Nigeria. Notably, individual components of sustainability reporting did not exert a significant impact on the financial performance of cement firms. The study recommended that government policymakers enforce the compulsory inclusion of sustainability reports in the annual reports of cement companies, shifting from voluntary disclosure to mandatory reporting. Furthermore, it suggested that the management of manufacturing firms should prioritize the disclosure of economic reports, given their positive effect on performance.

Ismail, *et al.* (2022) investigated whether corporate sustainability reporting is associated with high firm performance in emerging markets. Using a sample of 24,029 firm-year observations from 14 emerging markets, including China, Egypt, Greece, Hungary, India, Malaysia, Pakistan, the Philippines, Poland, Russia, South Africa, Thailand, Turkey and the United Arab Emirates, we find firms with corporate sustainability reporting is associated with high firm performance. The results are robust even after including the firm-level controls of firm size, leverage, litigation risk, market-to-book ratio, firm age, industry-level control of market competition, and country-level control of the gross domestic product. The findings from this cross-country study provides significant implications for the regulators in promoting sustainability reporting and in assisting investors in making better decisions.

Syder *et al.* (2020) examined the effect of sustainability accounting report on shareholder value of quoted oil and gas companies in Nigeria. Cross-sectional and ex-post facto research designs were employed for the study. The population of the study was nine quoted companies on 2016/2017 fact book of the Nigerian Stock Exchange (NSE). The study sample was purposively selected to include only those companies that operated both on upstream and downstream sectors of the industry. Secondary data were obtained from the annual corporate reports of the concerned companies and Nigerian Stock Exchange from 2009 to 2018 by content analysis. Data analysis was with aid of E-view software version 7. It involved Autoregressive Distributed Lag (ARDL) bound test, descriptive statistic, model estimations and diagnostic analysis that adopted Augmented Dicky-Fuller Unit root test, error correction model and co-integration as well as multiple regressions. The findings of the study are: that employee training and community development expenditures had positive and significant effect on shareholder value added of the companies. However, the environmental compliance cost has no effect on shareholder value added.

Wasara and Ganda (2019) explored the impact of corporate sustainability disclosure on return on investment of companies listed on the Johannesburg Stock Exchange (JSE) for the period 2010 to 2014. Content analysis approach on the data set guided their study, while the multiple regression analysis method was used to show that there is negative effect of environmental disclosure on return on investment. It was also concluded that environmental disclosure had a positive and significant effect return on investment. That implied that a

percentage increase in corporate environmental disclosure will result in increased financial performance (return on investment).

3.0 Methodology

This study adopted *ex-post facto* research design using panel data for 10years (2013 - 2022) period of study. Ex post facto designs are a quasi-experimental study that examines the relationship of an independent variable on dependent variables within an experiment. This design was used because the researcher has no control over the exogenous variable and whatever happens occurred before the research. Furthermore, *ex-post facto* design is considered appropriate in this study as the researcher is trying to ascertain the cause and effect of the relationships that exist between sustainability reporting and firm value of listed industrial goods firms Nigeria. In this study, a sample size of all the twelve (12) listed industrial goods firms were selected from the population with one company (Portland Paints & Products Nigeria Plc) dropped out for want of complete information on the variables for the study.

Table 3:1 Operational measurement of each of the variables used for the study.

S/N	Variable	Measurement	Abbreviation	Expected Result	Expected Sign
1	Dependent	Market capitalization	MCAP	Positive	
2	Independent	Economic Sustainability Disclosure	ECOSD	Positive	+
3	Independent	Environmental Sustainability Disclosure	ENVSD	Positive	+
4	Independent	Social Sustainability Disclosure	SOCSD	Positive	+
5	Control	Firm Size	FSIZE	Positive	+

Source: Researcher's Compilation (2024)

The model specification used in the study followed the typical panel multiple regression format, functionally specified as follows:

$$Y_{it} = \int(X_{1it}, X_{2it}, X_{3it}, \ldots, X_{nit}) \quad .. \quad .. \quad (1)$$

Where,

Y_{it} = the dependent variable of company *i* in time *t*.

X_{it} = the series of independent variables of company *i* in time *t*.

Based on the nature of the hypotheses formulated and the outcome of various data screening/pre-estimation tests conducted, the model considered to be appropriate for estimating the study parameters is the Panel Generalized Method of Moments (GMM) Regression model.

The panel GMM model with instrumental variables and transformation at both First Differences and Orthogonal Deviation are specified as follows:

$$MCAP_{it} = \beta_1 MCAP(-1)_{it} + \beta_2 ENVSD_{it} + \beta_3 ECOSD_{it} + \beta_4 SOSD_{it} + \beta_5 FSIZE_{it} + \mu_{it} \quad (2)$$

Instrument Specification

here;

β_1 to β_5	=	the coefficients (rate of change) in the predictor or exogenous variables.
MCAP	=	market capitalization
ENVSD	=	environmental sustainability disclosure
ECOSD	=	economic sustainability disclosure
SOSD	=	social sustainability disclosure
FSIZE	=	firm size as control variable
u	=	error term

The researchers made use of descriptive and inferential (correlation and panel data Generalized Method of Moments) techniques to analyse the data collected. Various data screening and diagnostic tests were conducted to verify and ensure that the data collected met the basic assumptions which the inferential statistical technique is subject to. The descriptive analysis produced results for means, median, and standard deviation used to describe the nature of the data. It also produced skewness, Kurtosis and Jarque-Bera statistics for assessing the normality in the data distribution. Correlation analysis was used to assess the direction and magnitude/strength of the association among pairs of the series.

4.0 Results

This section of the chapter presents the data extracted from the financial statement of the twelve (12) listed industrial goods firms in Nigeria for a ten (10) year period from 2013 to 2022. The data were obtained from the annual report of the firms as published in the Nigerian Exchange Group website and presented in Appendix 2 and analysed with the aid of Econometric view (E-views version-10 software). The analysis of the data is presented in the subsequent sub-sections.

Descriptive Statistics:

In order to properly address the specific objectives of the study, the descriptive statistics of the data collected was carried out. The statistics is a statistical summary that quantitatively defines features of a group of information. It gives relevant information about sample statistics such as mean, median, minimum, maximum value, skewness, kurtosis and Jarque-Bera statistics. These information collectively provide guide on the nature and distribution of the data and the suitable estimation technique for the study. The results of the descriptive statistics are shown in Table 4.1.

Table 4.1: Descriptive analysis of LNMCAP, EPS, ENVSD, ECOSD, SOCSD and FSIZS

	LNMCAP	EPS	ENVSD	ECOSD	SOCSD	FSIZE
Mean	15.50556	7.174000	0.353790	0.592594	0.515152	15.83154
Median	14.57192	0.325000	0.272730	0.555560	0.500000	15.10415
Maximum	22.20406	280.3100	0.727270	0.777780	0.818180	21.68480
Minimum	10.31692	-3.130000	0.181820	0.333330	0.272730	12.06420
Std. Dev.	2.758072	34.77078	0.152208	0.139163	0.163868	2.581138
Skewness	1.034733	7.071999	1.131886	-0.133671	0.160088	0.764865
Kurtosis	3.296518	53.15480	3.619172	2.051029	2.158192	2.609660
Jarque-Bera	21.85305	13577.78	27.54018	4.860087	4.055769	12.46219
Probability	0.000018	0.000000	0.000001	**0.088033**	**0.131614**	0.001967

Sum	1860.667	860.8800	42.45477	71.11130	61.81821	1899.785
Sum Sq. Dev.	905.2284	143871.8	2.756898	2.304592	3.195493	792.8105
Observations	120	120	120	120	120	120

Source: Researcher's Computation (2024)

Table 4.1 reveals that the mean values of market capitalization and earnings per share are 15.50556 and 7.174000 respectively for the period covered by the study, indicating that the average value of LNMCAP of the series is 15.5% while that of EPS is 7.2%. The higher percentage of the mean value of LNMCAP implies that the firms have higher preference for LNMCAP. Correspondingly, the mean values for environmental sustainability disclosures, economic sustainability disclosures, Social sustainability disclosures and firm size are 0.353790, 0.592594, 0.515152 and 15.83154 respectively.

The standard deviation (Std. Dev.) indicates the dispersion from or spread in the series from their mean values. Earnings per share has the highest dispersion of 34.77078, followed by market capitalization (LNMCAP) with 2.758072 and firm size (FSIZE) with 2.581138. However, social sustainability disclosures (SOSD), environmental sustainability disclosures (ENVSD) and economic sustainability disclosures (ECOSD), have low dispersion from their means of 0.163868, 0.152208 and 0.139163 respectively.

Skewness which depicts the asymmetry of the distribution around the mean reveals that LNMCAP, EPS, ENVSD, SOSD and FSIZE have a long right tail (positive Skewness) while ECOSD has long left tails (negative skewness). The peakness or flatness of the distribution of the series is indicated by Kurtosis. Statistics reveal that LNMCAP, EPS and ENVSD are not normally distributed as their values exceed the acceptable value of 3 and are thus presumed to be peaked (leptokurtic) relative to the normal, while ECOSD, SOSD and FSIZE with values less than 3 are presumed to be flat (playtykurtic) relative to the normal. The statistical significance for the Jarque-Bera statistics (JB) of the variables as reported in table 4.1 confirms that some of the series have probability values that are less than 0.05. All the series except ECOSD and SOCSD failed to meet the assumption of normality. This is an indication of uncertainty in trend of the distribution of the data set collected for the study, hence a linear model was considered unsuitable for predicting the parameters.

Again, the panel data is a short panel with the time period (10 years covering from 2013 to 2022) less than the number of cross-sessions (12 listed industrial goods firms). These features of the data set call for the use of an appropriate dynamic model/estimation technique (the GMM) that has the capacity to take care of these problems in the estimation process.

Table 4.2: Correlation Analysis of the Study Variables

	LNMCAP	EPS	ENVSD	ECOSD	SOCSD	FSIZE
LNMCAP	1.000000	0.009291	-0.134978	0.374649	0.208083	0.905406
EPS	0.009291	1.000000	0.372611	0.230398	0.287158	0.129701
ENVSD	-0.134978	0.372611	1.000000	0.321921	0.606070	-0.006510
ECOSD	0.374649	0.230398	**0.321921**	1.000000	0.719617	0.485054

SOCSD	0.208083	0.287158	**0.606070**	**0.719617**	1.000000	0.240348
FSIZE	0.905406	0.129701	**-0.006510**	**0.485054**	**0.240348**	1.000000

Source: Researcher's Computation (2024)

Table 4.2 shows the association between two pairs of the variables of the study. Of particular interest is the relationship existing between each pair of the independent variables. As highlighted, no pair of the independent variables have correlation coefficient that is greater than 0.80. Suggests the absence of multicollinearity problem in the series.

Analysis of the Effects of Sustainability Reporting Components on Market Capitalization (MCAP)

To select the most appropriate Panel Dynamic specification of GMM between the First differences and System Approach, three regressions were estimated – the Pooled OLS, the Fixed Effect OLS and the First differences transformation. The choice is based on the comparative values of the coefficients of the lag of the dependent variable in the three estimates.

Table 4.3 Selection criteria between first differences and system panel GMM regression for MCAP model

Regression Approach	***lnMCAP (-1) Coefficient***	***Remarks***	***Decision***
Pooled OLS	0.895107	Upper bound	1st Differences GMM is preferred since 0.398906 ***is not lowerthan*** 0.192354
Fixed Effect OLS	0.192354	Lower bound	
1st Differences GMM	0.398906	System GMM is preferred if MCAP (-1) Coefficient from 1st Diff. GMM < lower bound coefficient, otherwise 1st Differences GMM is used.	

Source: Researcher's Computation (2024)

Since 0.398906 (1st Difference Coefficient of the lag of the Dependent Variable - LNMCAP (-1) is higher than 0.192354 (Fixed Effect Coefficient of the lag of the dependent variable), First Difference GMM is preferred as the result shows that this dynamic transformation of GMM is not downward bias.

Table 4.4 provides the summary of the GMM test results of the effect of sustainability reporting components on firm value measured using MCAP based on 1st differences GMM transformations.

Table 4.4: GMM Test results of the effect of sustainability reporting components on Market Capitalization (MCAP) based on 1st differences transformation

Variable	Coefficient	Std. Error	t-Statistic	Prob.

LNMCAP(-1)	0.398906	0.219631	0.450328	0.6535
ENVSD	-0.566374	0.458814	-1.234430	0.2202
ECOSD	1.242320	0.387396	3.206851	0.0019
SOCSD	-0.534885	1.362293	-0.392636	0.6955
FSIZE	0.657603	0.175475	3.747561	0.0003

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.026329	S.D. dependent var	0.553933
S.E. of regression	0.563008	Sum squared resid	28.84497
J-statistic	7.170186	Instrument rank	12
Prob(J-statistic)	0.411378		

Source: Researcher's Computation (2024)

Table 4.4 provides results to evaluate the validity of the entire model using the J-statistic of 7.170186. The probability of the J-statistic is reported as 0.411378, indicating that the model is valid and can be relied upon in predicting the effect of sustainability reporting on market capitalization. The results also show that economic sustainability disclosure (ECOSD) with t-statistic of 3. 206851 (with p-value of 0.0019 < 0.05) has positive and significant influence on market capitalization. Environmental sustainability disclosure (ENVSD) with t-statistic of -1.234430 and social sustainability disclosure (SOCSD) with t-statistic of -0.392636 are considered to have no significant influence on market capitalization at 5% level, with both ENVSD and SOCSD exacting negative effect.

The value of the beta coefficient for economic sustainability disclosure (ECOSD) of 1.242320 implies that a unit increase in the number of economic sustainability disclosure will lead to about 1.24% increase in the market capitalization of the listed industrial goods firms in Nigeria if other factors are held constant. On the contrary, a unit increase in ENVSD and SOCSD respectively result to a decrease of 0.57% and 0.53% in the market capitalization of the industrial goods firms investigated. Post estimation test to check for possible existence of autocorrelation problem in the model was conducted using the Arellano Bond Serial Correlation test and the results are shown in Table 4.5.

Table 4.5: Arellano-bond Serial Correlation Test on MCAP model

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	-1.085144	-8.239083	7.592617	0.2779
AR(2)	0.631744	2.633466	4.168567	0.5276

Source: Researcher's Computation (2024)

The values of m-statistic for both AR (1) and AR (2) of -1.085144 and 0.631744 are found to be non-significant at 5% level (p-values of 0.2779 and 0.5276 are both > 0.05). Accordingly, the null hypothesis that proposes absence of serial correlation is not rejected and we conclude that there is no serial correlation in the series.

Table 4.6: Results of panel GMM estimation based on orthogonal deviations transformation for MCAP model.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNMCAP(-1)	0.178339	0.188102	0.948096	0.3456
ENVSD	-0.570215	0.676452	-0.842950	0.4015
ECOSD	1.119588	0.570692	2.209550	0.0345
SOCSD	0.449162	0.723255	0.621029	0.5361
FSIZE	0.429602	0.153956	2.790427	0.0064

Effects Specification

Cross-section fixed (orthogonal deviations)

Mean dependent var	-0.054194	S.D. dependent var	0.468060
S.E. of regression	0.462269	Sum squared resid	19.44601
J-statistic	7.672371	Instrument rank	12
Prob(J-statistic)	0.362368		

Source: Researcher's Computation (2024)

The probability of the J-statistic of 7.672371 is reported as 0.362368 and this affirms the validity of the model as a supporting evidence to the results obtained using the 1st differences transformation. The effect of ENVSD and SOCSD on MCAP are shown to be non-significant as obtained under the 1st differences transformation, just as ECOSD sustained positive and significant association with MCAP as obtained in the first differences transformation. Except for SOCSD earlier reported to have a negative influence on MCAP, all other results on the components of sustainability disclosure are analogous with the results earlier obtained using the 1st differences transformation. The robustness test results substantially accord with primary estimates and further strengthen the argument that the resulting estimates presented using 1st differences transformation in table 4.6 could be relied upon in testing $H0_1$ to $H0_3$ formulated for this study.

Test of Hypotheses

In testing the three hypotheses formulated for investigation in section one of this study, results from tables 4.4 to 4.6 were used to test each of the hypotheses formulated.

Results in table 4.4 indicate that the t-statistic for environmental sustainability disclosure of -1.234430 is non-significant at 5% level (P = 0.2202 > 0.05). Accordingly, the study fails to reject **$H0_1$** with the conclusion that ENVSD has no significant effect on market capitalization of listed industrial goods firms in Nigeria.

Results in table 4.4 indicate that the t-statistic for economic sustainability disclosures of 3.206851 is significant at 5% level (P = 0.0019 < 0.05). Accordingly, the result supports the rejection of **$H0_2$**, with the conclusion that the effect of economic sustainability disclosures on returns on assets of listed firms in Nigeria is statistically significant.

Results in table 4.4 indicate that the t-statistic for social sustainability disclosures of -0.392636 is not significant at 5% level (P = 0.6955 > 0.05). Accordingly, we fail to reject **$H0_3$** and conclude that, social sustainability disclosures have no significant effect on market capitalization of listed industrial goods firms in Nigeria.

5.0 Discussion of findings

Environmental sustainability disclosure and market capitalization

The study findings revealed that environmental sustainability disclosure (Coeff. = -0.5663{0.2202}) has an insignificant negative effect on market capitalization of listed industrial goods firms in Nigeria. The negative coefficient of -0.5663 suggests that for every unit increase in environmental sustainability disclosure, market capitalization decreases by 0.5663 units. However, this effect was found to be statistically insignificant. This implies that investors in Nigeria do not currently place significant value on environmental sustainability practices when evaluating industrial goods firms. This could be due to various factors such as limited awareness, perceived higher costs of sustainable practices, or a lack of clear regulatory frameworks promoting environmental sustainability.

This position is in agreement with the findings of Udomah and Emenyi (2023) and that of Akintoye *et al*. (2018). These studies stressed that companies that provide transparent and comprehensive disclosure of their environmental sustainability practices tend to attract more investors and enjoy higher market valuations. Investors are increasingly considering environmental factors, such as carbon emissions, waste management, and resource efficiency, in their investment decisions, leading to higher demand for companies with strong environmental performance. This however disagrees with the findings of Onoh, et al (2023) and Okpo et al (2024) documented that environmental sustainability reporting has a positive significant effect on the value of listed firms in Nigeria.

Economic sustainability disclosure and market capitalization

Economic sustainability disclosure (Coeff. = 1.2423{0.0019}) has a significant positive effect on market capitalization of listed industrial goods firms in Nigeria. The positive coefficient of 1.2423 indicates that for every unit increase in economic sustainability disclosure, market capitalization increases by 1.2423 units. This effect was found to be statistically significant. The findings suggest that investors value economic sustainability practices positively, leading to higher market capitalization for firms that disclose such information.

The significant positive effect of economic sustainability disclosure on market capitalization highlights the importance of disclosing information related to economic

sustainability for listed industrial goods firms in Nigeria. Investors seem to value firms that demonstrate strong economic sustainability practices, potentially indicating a positive sentiment towards firms that prioritize financial viability and long-term growth. This position is in line with the findings Udomah and Emenyi (2023) and that of Carnini *et al.* (2022). These extant studies revealed that economic reporting has a positive influence on the financial performance of these cement firms, while social reporting was associated with a decrease in their financial performance.

Social sustainability disclosure and market capitalization

The study findings also documented that social sustainability disclosure (Coeff. = -0.5349{0.6955}) has an insignificant negative effect on market capitalization of listed industrial goods firms in Nigeria. The negative coefficient of -0.5349 indicates that for every unit increase in social sustainability disclosure, market capitalization decreases by 0.5349 units. This effect was statistically insignificant. It suggests that social sustainability disclosures may not currently have a significant impact on market capitalization in the context of listed industrial goods firms in Nigeria. Firms may need to communicate the societal impact of their operations more effectively to better reflect the value created through social sustainability initiatives.

This does not however align with extant literature. For example, Indriawati and Yanti (2021) investigated the relevance of sustainability report disclosure in non-financial companies listed on the Indonesia Stock Exchange for the period 2016 – 2018. The results of this study empirically prove that the sustainability report as measured by SRDI and liquidity as measured by the current ratio (CR) does not affect market value. Meanwhile, profitability, as measured by ROA affects market value.

6.0 Conclusion and Recommendations

Environmental sustainability disclosures may not currently sway market capitalization significantly; economic sustainability practices emerge as a key driver of increased market value. Surprisingly, social sustainability disclosures play a notable role in enhancing earnings per share, underscoring the importance of holistic sustainability strategies for long-term financial success. These recommendations are based on the study findings

3 While the study found an insignificant negative effect of environmental sustainability disclosure on market capitalization, it is important for industrial goods firms in Nigeria to enhance their environmental reporting transparency. Firms should invest in sustainable practices and communicate these efforts effectively to stakeholders to improve market perception and potentially boost market capitalization over time.

4 Given the significant positive effect of economic sustainability disclosure on market capitalization, firms should prioritize disclosing information related to their economic sustainability initiatives and implement sustainable economic practices such as cost-efficiency measures and responsible financial management, and ensure that these efforts are well-documented in sustainability reports to attract investors and enhance market value.

REFERENCES

Akintoye, I. R., Olaniran, H. T., & Adeyemi, S. L. (2018). Environmental reporting and market valuation of industrial goods firms listed on the Nigerian stock exchange. *Journal of Economics and Sustainable Development, 9*(11), 123-136.

Akpan, D. C., & Uwakmfonabasi, J. S. (2021). Corporate sustainability disclosures and cash flow return on investment of shareholders of oil and gas companies in Nigeria. *International Journal of Innovative Finance and Economics Research, 9*(3), 111-124.

Akpan, S. J. & Uford, I. C. (2024a). Effect of Fuel subsidy Removal on Purchase of Consumer Goods in Nigeria: A Literature Review. *International Journal of Economics, Business and Social Science Research*, 2(4), 30-38.

Akpan , S. J., & Uford , I. C. (2024b). Street trading and its implications on economic development in nigeria: a literature review. *Advance Journal of Economics and Marketing Research, 9*(7), 23–32. Retrieved from; https://aspjournals.org/ajemr/index.php/ajemr/article/view/52

Akprorien, O.F., Otuya, S. & Archibong, E. A. (2022). Corporate sustainability efficiency and Market Value. A Study of Nigeria's deposit money banks. *European Journal of Accounting, Auditing and Finance Research*,10(6):19-30.

Asuquo, A., Dada E. & Onyeogaziri U. R. (2018). The effect of sustainability reporting on corporate performance of selected quoted brewery firms in Nigeria. *International Journal of Business & Law Research6*(3), 1-10.

Ballou, B., Heotger, D. L., and Landes, C.E. (2006). The future of corporate sustainability reporting: A rapidly growing assurance opportunity. *Journal of Accountancy*, 65-74.

Capaul, M., Rowley, I. T., & Vickery, J. (2017). The impact of market capitalization on stock returns. *Journal of Financial Economics, 45*(2), 189-208.

Carnini, P. S, Ciabu-rri M., Magnanelli, B. S. & Nasta. L. (2022). Does ESG disclosure influence firm performance? *Sustainability*, *14*(13), 7595.

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

Dumay, J., & Garanina, T. (2013). Barriers to implementing sustainability in Australian universities. *Journal of Business Ethics, 113*(1), 100-111.

Elkington, J. (2004). Enter the triple bottom line. The triple bottom line. Does it all add up, 1-16

Emeka-Nwokeji, N. & Osisioma, C. (2019). Sustainability disclosures and market value of firms in emerging economy, evidence from Nigeria. *European journal of accounting, auditing and finance research*, 7(3),1- 19.

Emenyi, E. O., & Okpokpo, A. S. (2023). Environmental disclosure and the quality of financial reports of listed Nigerian manufacturing firms. *British Journal of Marketing Studies*, *11*(4), 18-53.

Gray, R. (2010). Is accounting for sustainability actually accounting for sustainability… and how would we know? An exploration of narratives of organizations and the planet. *Accounting, Organizations and Society, 35*(1), 47-62.

Gray, R. Kouhy. R., & Lavers, S. (1995). Corporate Social and Environmental Reporting: A review of the literature and a longitudinal Study of UK Disclosure. *Accounting, Auditing &Accountability*, 8 (2),42-47.

GRI (2011),GRI-G31 Sustainability reporting guidelines. Retrieved from http://www.interlycees.lu/site/wp-content/uploads/2010/01/GRI-G31-Guidelines-2011.pdf

GRI (2016). Sustainability reporting guidelines. Retrieved from https://www.mandom.co.jp/en/sustainability/editorial-policy_gri400.html

Hong, H., & Kacperczyk, M. (2009). The price of sin: The effects of social norms on markets. *Journal of Financial Economics, 93*(1), 15-36.

Indriawati, F. & Yanti, N. (2021). Sustainability Reports and Its Impact on Market Value in Non-Financial Companies: Evidence from Indonesia. *International Journal of Management Studies and Social Science Research, 3(5): 42-50.*

Ingram, R. W. & Frazier, K. B. 1980, Environmental performance and corporate disclosure. *Journal of accounting research*, 614-622.

Ioannou, I., & Serafeim, G. (2017). The impact of corporate social responsibility on investment recommendations: Analysts' perceptions and shifting institutional logics. *Strategic Management Journal, 38*(12), 2549-2568.

Ismail, W. A. W., Saad, S. M., Lode, N. A. & Kustiningsih, N. (2022). Corporate Sustainability Reporting and Firm's Financial Performance in Emerging Markets. *International Journal of Academic Research in Business and Social Sciences*, *12*(1), 396–407

Jasch, C. & Stasiskiene, Z. (2005). From environmental management accounting to sustainability management accounting, *Environmental Research, Engineering and Management* 4(34), 77-88.

Nangih, E., Emeka-Nwokeji, N. & Peters, G. (2022). Environmental disclosures and earnings quality of listed consumer goods firms in Nigeria. *Journal of Accounting Information and Innovation, 8*(4), 1-17.

Nurhasimah, A., Said, J., Ahmad, F., & Shazali, A. M. (2016). The impact of environmental disclosure on financial performance: A study among the top 100 market capitalization companies in Malaysia. *International Journal of Environmental Economics and Policy, 5*(2), 56-72.

Ojo, O. F., Ayoola, J. B., & Agbaje, H. O. (2019). Social sustainability reporting and firm market value: evidence from listed manufacturing firms in Nigeria. *Journal of Sustainable Finance & Investment, 9*(2), 162-178.

Okechukwu, E.A & Okeke-muogbo, G.N (2020), Effect of environmental and social responsibility sustainability disclosure in firm performance. *European Journal of Accounting, Finance and Investments 6(6), 136 -149*

Okpo, S. A., & Simeon, U. (2023). The role of forensic accounting in mitigating against cyber crimes during the covid-19 pandemic era: issues and perspectives. *GPH-International Journal of Social Science and Humanities Research*, *6*(07), 09-23.

Okpo, S. A., Umoren, A. O. & Simeon U. J (2024). Gaining investors' confidence through environmental informationdisclosures in annual reports of companies in Nigeria, *International Journal of Advances in Management and Economics* 13(2):1-14

Oluwaseun, V. B., Afolabi, E. A., & Adetoye, F. A. (2020). Economic sustainability reporting and market performance of industrial goods firms listed on the Nigerian stock exchange. *Journal of Accounting, Finance, and Economics, 10*(3), 89-107.

Onoh, U., Kayadi, B. & Ndubuisi, O. (2023). Sustainability reporting and firm value of listed oil and gas companies in Nigeria. *Journal of Development Economics and Finance, 4*(1), 177-223.

Pelyuan, G., B. O. Unerman, J. & Hession, A. (2007). Study of sustainability reporting in China, a journey to discover values. Retrieved from http:/www/SustainabilityReport.com 18th September, 2019.

Putri, L. & Suputra, I. (2019). The effect of disclosure of financial report and managerial ability on earnings management with audit quality as a moderating variable. *Research Journal of Finance and Accounting, 10*(2), 33-39

Qamruzzaman, M., Jahan, I. & Karim, S. (2021). The impact of voluntary disclosure on firm's value: Evidence from manufacturing firms in Bangladesh. *Journal of Asian Finance,*

Rizzato, F., Busso, D., Fiandrino, S., & Cantino, V. (2019). Non-financial information and risk disclosure: Compliance levels with mandatory requirements in the Italian market. *The Future of Risk Management, 2*(2), 105-142.

Syder, I. D., Ogbonna, G. N. & Akani, F. N. (2020). The effect of sustainability accounting report on shareholder value of quoted oil and gas companies in Nigeria. *International Journal of Management Sciences,* 7(5):44 – 57.

Theophilus, A. & Ademola, A. (2020). Voluntary or mandatory disclosure of financial information by listed corporate entities in Nigeria: The stakeholders' perspectives. *European Journal of Business, Economics and Accountancy, 8*(2), 73-86.

Udo, R. A., Akpan , S. J., & Uford , I. C. (2024). Product Branding and Customer Patronage of Champion Breweries Plc.'s Products, Uyo, Akwa Ibom State, Nigeria. *AKSU Journal of Administration and Corporate Governance,* 4(2), 208-220.

Udomah, M. O., & Emenyi, D. E. O. (2023). Sustainability reporting and financial performance of selected cement firms in Nigeria. *GPH-International Journal of Business Management*, *6*(08), 40-65.

Unerman, J., Bebbeington, J. & O'Dwyer, B. (Eds), (2007). Sustainability Accounting and Accountability, London: Routledge.

Uto, S. C., Uwa, K. L., & Akpan, A. (2024). Knowledge management and competitive advantage in selected manufacturing firms in Akwa Ibom State. *International Journal of Business and Management Review, 12*(1), 1-20.

Uwa, K. L. (2021). Multivariate Analysis of the factors that influence strategic management practices among commercial banks in Nigeria. *European Journal of Business and Innovation Research*.

Wasara, S. N., & Ganda, F. (2019). The impact of corporate sustainability disclosure on return on investment: Evidence from companies listed on the Johannesburg Stock Exchange. *Journal of Sustainable Business, 10*(3), 123-145.

World Business Council for Sustainable Development (WBCSD). (2002). *Sustainable development reporting: Striking the balance*. Geneva: WBSCD.

World Commission on Environment and Development (WCED). (1987). *Our common future: The Brundtland report*. Oxford: Oxford University Press.

Yusoff, H. & Darus, F. (2014). Mitigation of climate change and prevention of pollution activities: Environmental disclosure practice in Islamic Financial Institutions. *Procedia - Social and Behavioral Sciences, 14*(5), 195-203.