

SUSTAINABILITY REPORTING AND FINANCIAL PERFORMANCE OF LISTED INDUSTRIAL GOODS FIRMS IN NIGERIA

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ABSTRACT

The study examined the effect of sustainability reporting on the financial performance of industrial goods firms listed in Nigeria. The study specifically determined the effect of social sustainability reporting, economic sustainability reporting, environmental sustainability reporting and governance disclosures on Economic Value Added. The study adopted the ex-post facto research design. Thirteen listed industrial goods firms made up the population of the study. Purposive sampling was used to select the sample size of nine firms. The study used secondary data which were sourced from the annual reports of the firms over a thirteen year period (2012-2024). Descriptive analysis was carried out together with multicollinearity test, heteroskedasticity test, cross-sectional dependence test and Hausman specification test. Hypotheses were tested using panel least square regression, which revealed the following findings: social sustainability reporting has a positive and significant effect on Economic Value Added of listed industrial goods firms in Nigeria ($\beta = 0.9083, p = 0.0000$); economic sustainability reporting has a positive and significant effect on Economic Value Added of listed industrial goods firms in Nigeria ($\beta = 4.4605, p = 0.0029$); environmental sustainability reporting has a negative and significant effect on Economic Value Added of listed industrial goods firms in Nigeria ($\beta = -0.5718, p = 0.0000$); governance disclosures have a negative and significant effect on Economic Value Added of listed industrial goods firms in Nigeria ($\beta = -2.0663, p = 0.0061$). In conclusion, initiatives aimed at enhancing social welfare and economic stability, such as employee development, community engagement and infrastructure investment, are well-received by stakeholders and could translate into higher productivity, brand equity, and long-term financial gains. The study recommended that Industrial goods firms need to appoint sustainability officers in order to intensify and institutionalize social sustainability initiatives such as employee engagement programs, health and safety policies, and community development projects, as these have been empirically shown to contribute positively and significantly to economic value added, enhancing both social impact and financial performance.

Key words: Economic Sustainability Reporting, Environmental Sustainability Reporting, Financial Performance, Social Sustainability Reporting, Sustainability Reporting..

INTRODUCTION

Sustainability reporting has various dimensions, the social, economy and environmental of sustainability reporting and the corporate governance disclosures regarding sustainability, firms reports on the four dimensions of sustainability which demonstrates the ways the environment, social, economic and corporate governance aspect of sustainability are affected as production is ongoing. Amahalu, Okoye and Obi (2018) defined 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 (example, a company, production site, and nation). The social aspect of sustainable entails workforce development, employees relations community development, consumer and employees health and safety. The Economic sustainability include profitability, growth metrics, job creation, standard of living. The environmental aspect of sustainability reporting concerns eco-friendly initiatives, cost effectiveness implementation, the governance sustainability for continuity and effective governance. The growing concern about the global environmental, social, economic corporate governance challenges associated with increased business activities due to industrialisation and the increasing population has significantly shifted on how companies perceive their societal role (Galeotti, Camilleri, Roberto & Sepe, 2025; Elom et al., 2025). No longer are companies solely evaluated based on financial indicators; investors, stakeholders, and consumers are demanding a more holistic assessment that includes economic, environmental, social and governance impacts of business operations, herein referred to as Sustainability Reporting (SR). The detrimental effect as a result of the activities of the production sectors both industrial and consumers' goods and services. The detrimental effect include floods, erosion, environmental pollution, emission, degradations, waste materials, oil spillage, gas flaring, and product quality and safety (Nworie & Orji-Okafor, 2024).

Environmental issues include the impact of production process, products and services on air, water, land, biodiversity and human health. The concept of sustainability reporting is the traditional concern of business organization's strategies for profit maximization, diversification, product differentiation as well as global assessment of firm's performance on its environment (Nnamani, Onyekwelu & Ugwu, 2017). However, the evolution of strategic thinking underscores the need to include activities that seek to integrate social and environmental issues into business decision making process, more so, firms which integrates their environment and people are viewed as socially responsible (Emenyi & Okpokpo, 2023).

The performance on sustainability would be proxied using EVA, Economic Value Added. It determines the true profit of the operations of a firm by subtracting the cost of capital from Net Operating Profit after Tax to determine the economic value added to the operations of the firm using the social, economic, environmental and the governance to proxy sustainability reporting. Sustainability reporting does not have a universally agreed definition. It is a wide word that refers to a firm's economic, environmental, and social performance reporting (Shetty, Kumar, Birau, Popescu & Gaddi, 2025). It is sometimes used interchangeably with triple bottom line reporting, corporate responsibility reporting, and sustainable development reporting, although these phrases are progressively becoming more specific in their meanings, and as a result, they are becoming a subset of sustainability reporting. Consequently, Sustainability reporting is a report created and distributed by businesses to promote sustainable development in terms of environmental protection, social development, economic success and governance practices. In order to meet the needs of the present without jeopardizing the capacity of future generations to do the same, sustainable development must be practiced.. The interest of investors in company's non-financial performance has grown significantly over the past few years (Ernest & Young, 2009). Sustainability issues are being broadly integrated in different organizational functions and being seen as an important performance assessment.

According to Asaolu, Agboola, Ayoola and Salawu (2015) posit that sustainability reporting has emerged as a response to interdisciplinary reporting. This practice keeps the society abreast of what is happening in organizations in a holistic manner. Additionally, Asaolu, Agboola, Ayoola, and Salawu (2011) posits that Sustainability reporting is considered as a wider level of transparency and accountability to stakeholders for social activities of firms. Companies are solely evaluated based on financial indicators; investors, stakeholders, and consumers are demanding a more holistic assessment that includes economic, environmental, and social impacts of business operations, herein referred to as Sustainability Reporting (SR). Sustainability reporting is established through various disclosure frameworks, such as the Global Reporting Initiative and the Sustainability Accounting Standards Board guidelines. According to Abdulrasheed and Aminu (2024), these frameworks offer a structured platform for companies to communicate their efforts, achievements, and goals in promoting sustainability. Sustainability reporting provides information that enhances corporate transparency and accountability in terms of economic, environmental, social, and governance factors. This information goes beyond what is typically captured in traditional corporate financial reports. It has been agreed by world business leaders that sustainability tells on a

firm's corporate responsibility, therefore any company that does not produce sustainability report could be seen as working towards unsustainable development (Dorweiler and Yakhou, 2003).

A sustainability report outlines a company's performance in areas like environmental, economic, social, and governance (ESG) factors. Sustainability reporting goes beyond merely compiling data into a report; it serves as a method for organizations to integrate and strengthen their commitment to sustainable development. This approach allows companies to demonstrate their progress and accountability to both internal and external stakeholders with respect to not just environmental sustainability but also economic, social and governance sustainability. According to Alhassan, Islam, and Haque (2021), sustainability reporting can, in some instances, also encompass the environmental, economic, social, and cultural dimensions of society. Companies are today required to raise financial reporting requirements, which is crucial to their survival, especially in a time when environmental challenges are having a severe influence on human lives, agricultural goods, and marine life (Clerverline, 2021). As a result, stakeholders are currently pressuring enterprises to start creating their sustainability report (KPMG, 2011; Emuebie, 2021). By communicating a company's commitment to all stakeholders, sustainability reporting (SR) improves the corporate image of a company's products and services and increases credibility. Firms make several operational and strategic decisions which are usually moderated by the fundamentals of business operating environment; these include financing decision, investing decision and operational decision. Hence, firms must pay particular engrossment than before to their operating environments when formulating and implementing survival and growth strategies (Ezeokafor & Amahalu, 2019). This practice allows stakeholders, including investors, customers, employees, and regulators, to gauge how a firm manages its sustainability risks and opportunities. In Du and Zhang (2020) opinion, the positive response of business leaders to these issues help companies mitigate risks, protect corporate brand, gain a competitive advantage, help reduce poverty and improve the quality of life for many.

Sustainability in manufacturing and industrial goods firms in Nigeria has increasingly become a focal point, particularly in how companies report the impact of their activities on environmental, social, and economic aspects. Companies are expected to be more transparent in addressing economic issues, operational practices, employee relations, and their interactions with local communities (Kowal & Kustra, 2016). It is crucial to assess the effectiveness and efficiency of management, especially regarding how they utilize

investments made by capital providers to generate returns and create wealth from operations in monetary terms. Unerman, Bebbington, and Dwyer (2017) argue that human activities today are seen by some as having a detrimental impact on society, ecology, and the economy, which will be experienced by future generations. This viewpoint is increasingly recognized by a growing global audience. Despite the adoption of sustainability reporting in Nigeria, it remains unregulated and voluntary, and many corporate organizations fail to present reports that reflect their sustainability impact on society.

In recent years, numerous studies on sustainability reporting have primarily focused on the corporate social responsibility (CSR) aspect. For instance, Uwuigbe and Egbide (2012), Macarulla and Talalweh (2012), Ebiringa, Yadirichukwu, Chigbu, and Ogochukwu (2013), Ada and Daniel (2020) have concentrated on the social dimension, while others like Didia and Onwuchekwa (2015), Abubakar (2017), and Ezeagba, Racheal, and Chiamaka (2017) have focused on the environmental aspects of sustainability reporting. While numerous studies have explored the relationship between sustainability disclosures and financial performance across various sectors, particularly in oil, gas, and banking, few have focused specifically on the industrial goods sector. Moreover, existing research has predominantly employed traditional financial metrics such as Return on Assets (ROA), Return on Equity (ROE), and market value, with limited attention given to Economic Value Added (EVA) as a performance indicator. By examining the combined impact of social, economic, and environmental sustainability reporting on EVA, this study addresses the sector-specific and methodological gaps identified in previous literature. Unlike earlier works that provided generalized findings or overlooked the industrial goods sector entirely, this study isolates the unique dynamics within this sector and integrates a multidimensional approach to sustainability reporting.

Objectives

The main objective of the study was to empirically examine the effect of sustainability reporting on the financial performance of industrial goods firms listed in Nigeria. The study specifically seeks to:

1. evaluate the effect of social sustainability reporting on Economic Value Added of listed industrial goods firms in Nigeria.
2. determine the extent to which economic sustainability reporting affects Economic Value Added of listed industrial goods firms in Nigeria.
3. examine the extent at which environmental sustainability reporting affects Economic Value Added of listed industrial goods firms in Nigeria.
4. evaluate the effect of governance disclosures on Economic Value Added of listed industrial goods firms in Nigeria.

LITERATURE REVIEW

Sustainability Reporting

Sustainability reporting is the integration of reporting and accounting for social, environmental and economic development in corporate reporting (Ukoh et al., 2024). The concept of sustainability reporting maintains that while a firm strives to achieve its traditional objectives of maximizing profit, it is important that this profit is maximized through activities that seek to incorporate social and environmental considerations into the process of making verdict. Sustainability Reporting has no single, generally accepted definition. It is a term generally used to describe a company's reporting on its economic, environmental and social performance. It can be synonymous with triple bottom line reporting, corporate responsibility reporting and sustainable development reporting, but increasingly these terms are becoming more specific in meaning and therefore subsets of Sustainability Reporting (KPMG, 2008). GRI (2011) defines sustainability reporting as the practice of measuring, disclosing and being accountable to internal and external stakeholders for organizational performance towards the goals of sustainable development. Sustainability index in KPMG (2008) looks at Sustainability Reporting as a business approach that creates long term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social developments.

According to GRI (2019), sustainability reporting is the practice of measuring, disclosing and being accountable to internal and external stakeholders to achieve the goals of sustainable development. Similarly, Umoren and Ukpong (2022) define sustainability accounting as the

sub branch of accounting which handles the activities, methods and systems of the business to record, analyze and report first, the financial effects caused by environmental and social factors and second, the ecological and social effects of a defined economic system. It is not just reported generation from collected data; instead, it is a method to internalize and improve an organization's commitment to sustainable development in a way that can be demonstrated to both internal and external stakeholders. According to Akpan and Simeon (2021), by making these disclosures, companies make stakeholders aware of how they are integrating the principles of sustainable development into their organizational goals and daily operations. Sustainability reporting is the term which is widely used to communicate the companies' effect on social, environmental, and economic performance. Such report is disseminated and published to fulfill the needs of a wide range of stakeholders such as investors, creditors, employees, customers, suppliers, governments, activist groups, and the general public. It is recently used to cover the disclosure of a company's commitment to sustainable practice (Burhan & Rahmanti, 2012).

Sustainability reporting, according to Sumaryati and Rohman (2019), is a subsection of accounting and reporting that deals with operations, methods, and systems for recording, analyzing, and reporting environmental and socially induced financial impacts, as well as ecological and social impacts of a defined economic system (example, a company, production site, and nation). Sustainability reporting can be a tool to attain cost savings, because it encourages an organization to use natural resources more efficiently, improve process efficiency, and use recoverable resources (Uwuigbe, 2011). It provides a framework for measurement and target setting of organizational goals (Corporate Citizenship, 2012). It helps companies to discover weaknesses, opportunities and set a new goal. Finally, sustainability reporting can be used to address the demand for more transparency and better accountability brought about by the global financial crises and the sustainability issues currently facing the world today (INTOSAI WGEA, 2013). According to Jones and Jonas (2011), sustainability reporting (SR) is simply a company's disclosure of information on the following topics: economic, environmental, human rights, labor practices and decent work, society, and product responsibility.

Economic Sustainability Reporting

Economic reporting is a reference to stable economic capital. Examining an organization's external economic effects on society and then attempting to comprehend how these effects might impact the organization's own sustainability constitute the concept of economic

sustainability (Makori & Jagongo, 2013). Economic reporting, according to GRI (2011), is the process by which a business provides information about its range of economic operations, including benefits and wages, labor productivity, job creation, research and development, and investment, to its many stakeholders. This study uses salary along with other benefits in accordance with GRI 200 to evaluate the financial aspect of sustainability reporting. The economic performance can be measured through analyzing the impact of the organizations on the stakeholders on a local, national and global level (Okudo, & Ndubuisi, 2021). The increase in competitiveness and the development of an economy based on knowledge with an emphasis on the improvement of the energetic efficiency and the use of alternative bio-regenerating resources, the protection and improvement of the quality of the environment, the improvement of the living standards, the development and a more efficient usage of the human capital through social promotions are relevant requirements for a sustainable development (Omojolaibi, Okudo & Shojobi, 2019).

H₀₂: Economic sustainability reporting does not significantly affect Economic Value Added of listed industrial goods firms in Nigeria.

Social Sustainability Reporting

Social reporting refers to the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society (Amahalu, Ezechukwu & Obi, 2017). The Global Reporting Initiative (GRI) (2011) defines social reporting as a reporting category that comprises information on jobs, careers, training and education, diversity and opportunity, community involvement, employee health and safety, and consumer health and safety. This implies that it provides information on social responsibility policies and practices that have the potential to improve a business's standing while reducing potential legal risks and associated costs (Nworie & Aniefuna, 2024). When a corporation shares its social engagement, investors are better able to make decisions. This research uses instruction and training as a gauge for social reporting in accordance with GRI 400.

H₀₁: Social sustainability reporting has no significant effect on the Economic Value Added of listed industrial goods firms in Nigeria.

Environmental Sustainability Reporting

Environmental reporting is to fulfill its accountability regarding environmental efforts in their activities, and to provide useful information to decision making of interested parties

(Amahalu, Abiahu., Okika & Obi 2016; Okafor Nworie & Onyebuchi, 2024). Environmental reporting is the process by which a corporation communicates its information regarding range of its environmental activities to a variety of stakeholders. Herrera , Larrán, Martínez, Martínez-Martínez (2015) defined environmental reporting as the assessment of the impact of environmental issues on the company's financial performance and that it requires changes to the way company discloses environmental issues in their annual/financial report.

H₀₃: Environmental sustainability reporting does not significantly affect Economic Value Added of listed industrial goods firms in Nigeria.

Financial Performance

Evaluating the financial performance of a manufacturing firm allows decision-makers to judge the result of a business strategy and activity in objective monetary terms. Asuquo, Dada and Onyeogaziri (2018) identified two broad categories of financial performance measures as investor returns and accounting returns. The basic idea of investor returns is that the return should be measured from the perspective of shareholders. Whereas accounting returns measures of financial performance focus on how firm earnings respond to different managerial policies (Abdulsalam, Abdulrahman, Mohammed & Abubakar, 2020). Iheduru and Okoro (2019) postulated that the manufacturing firm's performance is the indicator of sustainability and progressive achievement of specific, tangible, worthwhile, personal and measurable goals.

Profitability provides a summary measure of corporate success or failure and thus serves as an essential indicator of economic performance. Consequently, a business that is highly profitable has the ability to reward its owners with a large return on their investment. Profitability of a firm is the ability to generate revenue in excess of cost in relation to the company's capital base (Victor, Samuel & Eric, 2013). Profitability entails the ability to make profit for all business activities of an organization. They further described it as management efficiency in the use of organizational resources in adding value to the business. Profitability is a way of measuring economic success of a firm in terms of capital invested in the firm Roxana, 2010. He further explained that performance is a vital construct in management that mirrors the best way to manage an organization. Performance also reflects the heterogeneous nature, objectives and circumstances and objectives of an organization at a given period (Kwaghfan, 2015). The actual performance of the manufacturing industry can either be financial and non-financial.

In the context of this study, however, financial performance will be focused on economic value added. Evaluating the financial performance of a manufacturing firm allows decision-makers to judge the result of a business strategy and activity in objective monetary terms. Asuquo, Dada and Onyeogaziri (2018) identified two broad categories of financial performance measures as investor returns and accounting returns.

Financial-performance measures a firms' overall financial level over a particular time duration and is used for comparison of general performance of different firms' operating in identical industry. The basic idea of investor returns is that the return should be measured from the perspective of shareholders. Whereas accounting returns measures of financial performance focus on how firm earnings respond to different managerial policies (Abdulsalam, Abdulrahman, Mohammed & Abubakar, 2020). Based on the foregoing definitions, characteristics and significance of the concept, financial performance is the process of evaluating the monetary achievements of the business affairs by implementing policies and strategies terms. In this regard, there is a number of financial performance measures which include TOBIN Q, return on assets (ROA), return on equity (ROE), change in total asset, earnings per share (EPS), net profit, change in stock price, operating profit, gross profit, return on capital employed to estimate the monetary health and the corporation's efficiency in utilizing available monetary resources. Economic value added (EVA) will be focused on in the context of this study. Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. (Investopedia, LLC, 2016).

Gavrea, Ilies and Stegorean (2011) defined performance as a set of financial and non-financial indicators which give information on the extent of achievement of objectives and results. It is dynamic, requiring judgment and interpretation. Studies have shown that performance is distinct from corporate performance.

Economic Value Added (EVA)

Economic value Added (EVA) is a financial metrics that measures a companys true economic profit, calculated by subtracting the cost of capital from its net operating profit after taxes (NOPAT). EVA is used as a proxy for performance because it :

1. Accounts for the cost of capital: Unlike traditional metrics like net income, EVA considers the cost of capital, providing a more accurate picture of a company's ability to create value for shareholders.
2. Focuses on economic profit: EVA measures the profit generated above the cost of capital, indicating a company's ability to create value for shareholders.
3. Encourages efficient capital allocation: By considering the cost of capital, EVA promotes efficient allocation of resources and investment in projects that generates returns above the cost of capital.
4. Aligns with shareholder value creation: EVA is directly linked to shareholder value creation, making it a relevant metric for investors and managers.
5. Provides a comprehensive view: EVA considers multiple factors including revenue growth, profitability, and capital efficiency, offering a more comprehensive assessment of performance.

Environmental Reporting and Financial Performance

It is difficult for firms to operate in today's business world where consumers have, and require, more knowledge regarding firms' products and services, their ways of operating and about the firm itself (Okudo, Omojolaibi & Oladele, 2021). Consumers in today's world are more aware and wide awake when it comes to their society and environment's prosperity and how it is been treated by the firms. Thus, it is a huge responsibility for organizations to carry out their operations in a social and responsible manner as it not only affects the societies but also the consumer's decision on involving themselves with the specific organizations (Sridhar & Jones, 2013). Several theoretical models and frameworks have been applied in past researches to have a better understanding of the relationship between the concept of environmental reporting and firms' performances. For example, Rokhmawati (2015) found a negative relationship between environmental reporting and firms' performances while Mirinda (2016) documented a positive relationship.

Social Reporting and Financial Performance

The social impact of corporations is becoming a very important issue in business entity. Some proponents of the sustainability reporting (Soloman & Hansen 2015) find that investment in Corporate Social Responsibility have a big return in terms of image and overall, financial result; the related benefits, in fact are bigger than the related costs. Literature reveals the existence of many positive externalities that are linked to CSR in its bid to respond to

stakeholders' requirements. Amahalu and Obi (2020) believe that satisfying the interest of stakeholders (shareholders, employees, suppliers, community, environment and so on) and being accountable to them may actually have a positive impact on all firm dimensions, particularly financial performance. Positive reputations have often been linked to positive financial returns. Okegbe, Eneh and Amahalu. (2019) posited that CSR initiatives can lead to reputation advantage as improvements in invested trust, new market opportunities and positive reactions of capital market would enhance organisation's financial performance.

Economic Reporting and Financial Performance

A firm's decision in financing, investing and any other decision pattern is primed on the trend of the behavior and disposed characters of its operating environment. Organisational performance has been a source of influence on the actions taken by companies and the degree to which an organisation realizes its goals as well as the stated objectives through the stated strategies and policies of the organisation (Egolum, Amahalu & Obi (2019). The increase in competitiveness and the development of an economy based on knowledge with an emphasis on the improvement of the energetic efficiency and the use of alternative bio-regenerating resources, the protection and improvement of the quality of the environment, the improvement of the living standards, the development and a more efficient usage of the human capital through social promotions are relevant requirements for a sustainable development (Omojolaibi, Okudo & Shojobi, 2019). Cimpoeru, Radu and Cimpoeru (2011) proved a positive relationship between economic reporting and financial performance.

Governance Reporting and Financial Performance

A critical synthesis of the empirical studies on the *influence of governance sustainability reporting on financial performance* reveals a complex yet increasingly evident relationship. Hycient and Ukpong (2022) established that ESG disclosures—both collectively and individually—are value-relevant and positively influence market value for oil and gas firms in Nigeria. Similarly, Akpan and Emenyi (2020) found that triple bottom-line reporting significantly improves financial indicators such as earnings per share, return on equity, and return on total assets. These findings align with Ezeokafor and Amahalu (2020), who reported significant positive effects of sustainability reporting on ROE, net profit margin, and EPS, emphasizing the financial relevance of governance transparency. Contrarily, Akpan and Simeon (2021) and Ifeanyi, Azubuike, and Ilormbagah (2020) observed that while sustainability disclosures were directionally positive, their impact on cash flow return on

investment and ROA, respectively, were statistically insignificant—suggesting the strength of influence may depend on the financial metric evaluated.

Expanding the context to other sectors and regions, Natasha and Pupu (2020) demonstrated that in Indonesia's banking sector, economic and social sustainability disclosures significantly impacted ROA, though environmental aspects did not. Conversely, Hashim, Ries, and Huai (2019) reported no significant relationship between corporate social responsibility components and financial outcomes across South-East African countries, revealing that regional regulatory environments or industry-specific practices may moderate the effect of governance reporting. Further, Ighosewe and Asaba (2021) showed a nuanced relationship in Nigerian industrial and consumer goods sectors: while certain disclosures reduced Tobin's Q, others like development disclosure increased it—highlighting that not all governance-related elements produce uniform financial outcomes. Finally, broader global findings reinforce the role of governance transparency in influencing firm performance, albeit inconsistently. For instance, Lawrence, Thomas, and Wang (2017) found sustainability reporting significantly enhanced market value in Singapore, while Ratanachoenchai, Rachapradit, and Nattayanun (2017) observed a non-positive association in Thailand, suggesting cultural or investor expectation differences. Swampali and Ie (2018) confirmed a positive link between sustainability disclosure and market value in Sri Lanka, while Goel and Mishra (2017) found inconclusive results in Tehran. These discrepancies underscore that while governance sustainability reporting can be financially beneficial, its effectiveness is influenced by contextual factors such as region, sector, regulatory frameworks, and stakeholder expectations. As such, the impact of governance reporting on financial performance cannot be universally presumed but must be critically assessed in relation to firm-specific and environmental conditions.

H₀₄: Governance disclosures does not significantly affect Economic Value

Added of listed industrial goods firms in Nigeria.

Theoretical Review

Stakeholder's Theory

The theory was developed by Edward Freeman (1984). The underlying assumption of this theory is that a firm should create value for all stakeholders and not just the shareholders. The theory proposes that organizations embrace sustainability practices as a means of fulfilling their ethical, social and moral obligations to stakeholders and simultaneously maximize shareholders wealth. Despite its seeming rise in popularity, many scholars have problems

with stakeholder theory. Some (Key, 1999) argue that stakeholder theory lacks specificity and thus, cannot be operationalized in a way that allows scientific inspection. Some feel that stakeholder theory offers no decision-making criteria that would adequately guide corporate governance. Stakeholder theory asserts that SR practices serve as an instrument for achieving firms' objectives and can lead to higher profitability by operating responsibly in society.

The general idea of the stakeholder concept is a redefinition of the organization. In general the concept is about what the organization should be and how it should be conceptualized. The organization itself should be thought of as grouping of stakeholders and the purpose of the organization should be to manage their interests, needs and viewpoints. This stakeholder management is thought to be fulfilled by the managers of a firm. The managers should on the one hand manage the corporation for the benefit of its stakeholders in order to ensure their rights and the participation in decision making and on the other hand the management must act as the stockholder's agent to ensure the survival of the firm to safeguard the long term stakes of each group.

This study is anchored on Stakeholder theory because the policies of the society and that of the firms' align. It believes that companies will need an environment to operate before thinking of relating with its stakeholders. According to the theory there exists a social contract between an organization and the society and the organization's need to legitimate its activities drive them into making sustainability reports.

Legitimacy Theory

Legitimacy is a status that is an outcome of society's collective perception of the organization's operation. It is a social assessment or appraisal of corporate conduct that is considered acceptable, appropriate, or/and desirable (Lim, Wilmshurst & Shimeld, 2010). Therefore, it is expected that firms will undertake acceptable behaviour or at least to be perceived as such so that they are perceived to be 'good' corporate citizens. Legitimacy is 'a generalized perception or assumption that the actions of an entity are desirable proper or appropriate within some socially constructed systems of norms, values, beliefs, and definitions' (Suchman, 1995 as cited in Lim et al., 2010). Theory of legitimacy asserts that the organization seeks to ensure that they are perceived as operating within the bounds and norms of their respective societies, that is they attempt to ensure, that outside parties perceive their activities as being 'legitimate.' These bounds and rules are not considered to be fixed but change over time, thereby requiring organizations to be responsive to the ethical environment in which they operate. According to this theory, it is essential to meet the societal norms and

expectations to ensure the survival of a firm in the long-term (Lindblom, 1993 as cited in Aggarwal, 2013). The proponents of legitimacy theory argue that corporate social and environmental responsibility tends to reduce the risk of regulatory actions and boycotts by stakeholders and strengthens the firm's license to operate. (Aggarwal, 2013).

According to legitimacy theory there is a contract between an organization and society which states that an organization owe the society an obligation to disclose the activities within the society and this makes them disclose these activities. Legitimacy theory asserts that organizations continually seek to ensure that they operate within the bounds and norms of their respective societies, that is they attempt to ensure that their activities are perceived by outside parties as being legitimate. Legitimacy theory relies upon the notion that there is a “social contract” between the organization in question and the society in which it operates. The concept is used to represent the multitude of implicit and explicit expectations that society has about how the organization should conduct its operations. It is assumed that society allows the organization to continue operations to the extent that it generally meets their expectations. Legitimacy theory emphasizes that the organization must appear to consider the rights of the public at large, not merely those of its investors. Failure to comply with societal expectations may lead to sanctions being imposed by the society. According to this perspective, a company would voluntarily report their activities if management perceived that those activities were expected by communities in which it operate. The legitimacy theory states that in order to maintain its business activities, companies need to behave as to what is expected from society (O'Donovan, 2002). The company's need to legitimate its activities drive companies into making sustainability reports, as the information disclosed in these documents is important to change society's perception towards the company. Hedberg and Malmborg (2003) have found in their empirical evidence from Sweden companies, that they produce corporate sustainability reports to seek organizational legitimacy.

Empirical Review

Githaiga and Kosgei (2023) investigated the influence of board characteristics on sustainability reporting (SR) in East African listed companies using data from 2011–2020 for 79 firms. SR was measured using the Global Reporting Initiative (GRI) framework, and analysis employed fixed effect, random effect, and generalized method of moments models. Results showed that board gender diversity, financial expertise, and independence positively and significantly affected SR, while board size had a significant negative effect.

In Nigeria, Hycient and Ukpong (2022) examined the value relevance of SR among 12 listed oil and gas firms using an ex post facto design and secondary data. Employing descriptive statistics, Pearson correlation, and OLS regression, they found that environmental, social, and governance (ESG) disclosures—individually and collectively—were value relevant and influenced firms' market values. Similarly, Ighosewe and Asaba (2021) studied SR and performance in 10 industrial/consumer goods firms from 2010–2019 using Tobin's Q as the performance metric. Employee, firm size, and environmental disclosures significantly reduced Tobin's Q, while R&D disclosure increased it; CSR disclosure had an insignificant negative effect.

Akpan and Simeon (2021) assessed SR's effect on cash flow return on investment for Nigerian oil and gas firms (2014–2020). Using content analysis, they found social sustainability disclosure significantly improved cash flow returns, whereas health, safety, and environmental disclosures had insignificant effects. Regarding economic value added (EVA), Ikechukwu and Blessing (2020) analyzed 21 manufacturing firms (2008–2019) using panel least squares and found that economic, social, environmental, and governance disclosures significantly impacted EVA. In contrast, Ofoegbu and Asogwa (2020) reported no significant SR–profitability relationship for 15 consumer goods firms. More recently, Iliemena et al. (2023), using data from 37 manufacturing companies (2013–2022) and random effect regression, confirmed a significant positive effect of SR on EVA.

Akpan and Emenyi (2020) examined the effect of triple bottom line (TBL) reporting on the financial and operating performance of Nigerian oil and gas firms. Using secondary data from the Nigerian Stock Exchange factbook and annual reports, and applying a GRI-based disclosure checklist within an ex post facto design, they found that TBL reporting significantly influenced earnings per share (EPS), return on equity (ROE), and return on total assets (ROA). In contrast, Ifeanyi and Iormbagah (2020), using secondary data from 2012–2016 and multiple OLS regression, reported that social and economic disclosures had no significant effect on ROA in listed oil and gas firms. Beyond Nigeria, Memed and Amir (2020) investigated sustainability reporting in Indonesia's mining sector (2012–2016) using multiple regression to assess economic, environmental, and social disclosures against ROA, ROE, and Tobin's Q. They found no significant influence on any performance measure. Similarly, Hashim, Ries, and Huai (2019), analyzing CSR and financial performance in Southeast Africa (2013–2017), observed no significant relationships, suggesting that poor infrastructure and employee policies may hinder potential benefits.

In contrast, Natasha and Pupu (2020) studied banks listed on the Indonesia Stock Exchange (2013–2016) and found that economic and social disclosures significantly improved ROA, while environmental disclosures had no effect. Likewise, Ezeokafor and Amahalu (2019) found that sustainability reporting—measured by economic, environmental, and social indices—significantly and positively affected ROE, net profit margin, and EPS in Nigerian oil and gas firms (2011–2017). However, findings remain mixed. For example, Asuquo, Dada, and Raphael (2019) assessed Nigerian breweries (2012–2016) and reported that economic, environmental, and social disclosures had no significant effect on ROA. Collectively, these studies highlight varying relationships between sustainability reporting and financial performance, with differences potentially arising from sectoral, regional, and methodological variations.

Effiong, Oti and Akpan (2019) studied the effect of triple-bottom-line disclosures on shareholders' value added of oil marketing firms in Nigeria. Secondary data were obtained from the NXG fact book and annual reports of the studied companies quoted on the floor of the Nigeria Exchange Market. A disclosure checklist of GRI guidelines was used while employing the ex post facto design. The findings showed that economic, social and environmental performance disclosures significantly affect economic value added, market value added and cash flow return on investment of oil and gas marketing firms during the period.

Uwalomwa, Obarakpo and Ozordi (2018) Examined sustainability reporting and firm performance of commercial banks in Nigeria from 2014 to 2016' purposive sampling technique was used. Panel regression method was used to analyze the data. The findings showed that there is a bi-directional relationship between sustainability reporting and firm performance of the commercial banks in Nigeria. The study recommends that commercial banks should improve their sustainability reporting so as to trigger their performance positively.

Gnanaweera¹ and Kunor (2018) studied the determining variables of sustainability disclosure in eighty-five (85) companies quoted on Tokyo stock exchange (TSE) during the period spanning from 2008 to 2014. Content analysis method was utilized to ascertain the extent of disclosure on social, environmental and economic information. Static panel regression analysis was also employed to test the existence of association between the variables. It was

evidenced that a weak significant relationship exists between performance indicators and disclosures.

Uwuigbe (2018) investigated the relationship between sustainability reporting (SR) and firm performance in quoted Deposit Money Banks (DMBs) in Nigeria for the period 2014–2016. Using judgmental sampling, annual reports were analyzed via content analysis to generate an SR disclosure index, and panel regression was applied. Results indicated a bi-directional relationship between SR and firm performance. Market price per share had a significant negative effect on SR, while SR positively influenced revenue generation. Asuquo, Dada, and Onyeogaziri (2018) examined SR and corporate performance in three quoted brewery firms (2012–2016). They found that economic, environmental, and social disclosures had no significant effect on return on assets (ROA). In another study, the same authors assessed the impact of corporate social responsibility (CSR) on earnings of two oil and gas firms over ten years, using ordinary regression. Results showed CSR had a significant positive effect on earnings.

Abubakar (2017) analyzed the influence of firm attributes—profitability, firm size, leverage, and board size—on environmental disclosure in listed breweries (2012–2016). Multiple regression results revealed that board size had a significant negative effect, leverage a negative but insignificant effect, firm size a positive but insignificant effect, and profitability a significant positive effect on environmental disclosure. Amahalu, Ezechukwu, and Obi (2017) explored the relationship between CSR and financial performance in 15 quoted DMBs (2010–2016) using Pearson correlation, panel least squares, and Granger causality tests. Donations were found to have a significant positive relationship with ROA, ROE, and market-to-book value, suggesting that CSR enhances shareholder wealth and long-term returns.

Collectively, these studies reveal mixed evidence on the SR–performance link across Nigerian sectors, with results varying by industry, performance metric, and disclosure dimension. While some find strong positive associations, others report no significant impact, highlighting the contextual nature of SR outcomes. Lawrence, Thomas and Wang (2017) investigated the relationship between sustainability reporting and firm value based on listed companies in Singapore from 2004–2015. The study used an established sustainability reporting assessment framework and test how both the adoption and quality of sustainability reporting are related to a firm’s market value. Empirical results suggested that sustainability reporting is positively

related to firm's market value and this relationship is independent of sector or firm status such as government-linked companies and family businesses.

Omodero and Ogbonnaya (2017) examine the relationship between corporate social responsibility and profitability of commercial banks in Nigeria. Specifically, the study investigates the extent at which corporate social responsibility has been influenced by banks' profit after tax, total revenue and net assets. Ten banks were selected for the study and data was obtained from their annual financial statements between 2006 and 2015. The multiple regression analysis and t-test statistics were utilized for data analysis. The findings revealed that expenditure on corporate social responsibility has not been positively affected by the financial performance of banks in Nigeria. The study was limited to only the banking sector there is need for further studies, which will incorporate other sectors. Goel and Misra (2017). Using multiple-linear regression analysis, evaluated the impact of corporate social responsibility disclosure (CSR D) on the financial performance of companies listed on the Tehran stock exchange. The CSR D was the independent variable, as measured by economic, social, and environmental factors, while financial performance was measured using Return on Assets, Return on Equity, and Price Earnings Ratio. The results of the analysis are inconclusive.

Nnamani, Onyekwelu and Ugwu (2017), evaluated the effect of sustainability accounting on the financial performance of listed manufacturing firms in Nigeria. Firms used for the study were chosen from the Nigerian brewery sector. Data were sourced from the financial statements of three sampled firms. Data were analysed using the ordinary linear regression. The study reveals that sustainability reporting has positive and significant effect on financial performance of firms studied. Ezeagba, Racheal, and Chiamaka (2017) investigated the relationship between environmental disclosure and financial performance companies in Nigeria for a period of ten (10) years from 2006- 2015. Data were analyzed using multiple regressions. The result revealed a significant relationship between environmental disclosure and financial performance of companies.

Kwaghfan (2015) investigates the impact of sustainability reporting on the corporate performance of sixty-four selected listed companies in Nigeria between 2009 and 2013. The objectives of the study were to estimate the effect of sustainability reporting, proxied by economic, social and environmental performance indexes on corporate performance, represented by net profit margin, return on asset, return on equity and earnings per share. The

models developed in the study were estimated by the multiple linear regression analysis. Findings showed that sustainability reporting contributes to the indices of corporate performance of the selected companies. Wiwik (2015) in conducting a research on value relevance of financial performance and the quality of sustainability disclosure based on global reporting initiative used return on asset as a proxy for profitability and financial leverage (debt to equity ratio) as a proxy for risk while GRI disclosure index was used to measure sustainability. Tobin's Q was used to measure firm value. Revenues growth was selected as a moderating variable with regards to business growth. The study found that revenues growth was a moderating variable of the relationship between the quality of corporate sustainability disclosure and firm value.

Onyekwelu and Ekwe (2014) examined whether corporate social responsibility predicate good financial performance using the banking sector in Nigeria?. The study adopted the ex post factor as it made use of historical research design and secondary data used. Analysis was done using the Ordinary Least Square Regression. The findings shows that the amount committed to social responsibility vary from one bank to the other. The data further revealed that the sample banks invested less than ten percent of their annual profit to social responsibility. The researchers recommended that companies in Nigeria particularly profitable one should give greater priority to Corporate Social Responsibility because this has the tendency to assist them to survive and maintain their profitability and also diffuse the tensions and hostilities usually experienced by companies in their localities. Isa (2014) in conducting a research on sustainability reporting among Nigerian food and beverage firms with a total of six randomly selected firms found that environmental activities represent 20.40% of the total disclosures followed by product 19.75% and the least human rights disclosures representing 12.84% and that disclosures are determined by the size of the firms and it tend to vary inversely with firm's size. The study also found that large firms tend to disclose small amount of sustainable information relative smaller ones. Isa (2014), being sector-specific, assessed sustainable reporting among food and beverage firms in Nigeria. Data were generated from the 2013 annual reports of six firms listed on the Nigerian Exchange Group for cross-sectional analysis. The findings reveal that the firms exhibit some level of sustainability reporting, which is insignificant. The level of disclosure accounts for only 2% of the annual reports. Unlike the findings of Asaolu, *et al.* (2011) from the oil and gas sector, reports of environmental activities accounted for the largest amount of these disclosures. However, the study is also limited in that it is sector-specific. This limitation is overcome in this study by looking at five sectors across the listed manufacturing firms in Nigeria.

Duke and Kankpang (2013) assess the effect of corporate social responsibilities activities on financial performance of firms in Nigeria. Two hundred and seventy-five (275) firms selected from aviation, manufacturing, oil and construction industries were drawn to form the sample for the study. Corporate social responsibility was indexed by waste management and pollution management while financial performance was represented by net profit margin and return on asset. The result of the multiple linear regression analysis showed that corporate social responsibilities – proxy by waste and pollution management positively and significantly impacted on financial performance of the selected firms. Aggarwal (2013) investigates the impact of sustainability accounting on profitability of twenty non-financial companies listed in the India. The study examines the overall and individual effect (Community, Employees, Environment and Governance) of sustainability reporting on financial performance measure by return on assets (ROA), return on equity (ROE), return on capital employed (ROCE), profit before tax (PBT), and growth in total assets (GTA). The analysis of data carried out via the regression analysis unveiled that the overall sustainability reporting has no significant effect on financial performance of the selected firms. However, on individual bases, Community (COM) has no significant effect on ROA while Employees (EMP), Environment (ENV) and Governance (GOV) have significant effect on ROA.

Kankpang (2013). The study utilized regression method after preliminary diagnostic tests were carried out on the data collected. They ascertained that management of waste and pollution improve corporation performance of selected companies. An observation on the possible impact of environmental accounting on returns of some selected quoted companies in India was done by Makori and Jagongo (2013) with the aid of regression technique. The study reports a negative but significant relationship between ecological variables and returns proxied with earnings per share (EPS) and return on capital employed. In contrast, environmental accounting significantly improves profit margin and dividend per share. Aggarwal (2013) examined the impact of the company's sustainability performance on the financial performance of listed Indian companies using regression method of analysis. The study found that the Community-related version has an insignificant positive relationship with the company's economic performance. Employee-related performance, environmental-related performance, and financial-related performance have a significant connection with organisation's performance.

Burhan and Rahmanti (2012) observed the linear association amid sustainability report factors and corporation performance with the aid of multiple regression technique. The research revealed that only social disclosure variable significantly impacts on firm’s value.

Asaolu (2011) investigated the information conformity with regard to global best practices of Nigerian oil and gas sector. It was showed that corporate social responsibility was not present in the sample corporations. The study used content analyses to analyze his data. However, content analyses are descriptive. It describes what is there but may not reveal the fundamental reason for the observed pattern. It tells us what happened but not why it happened. Also, the observed trend may not be a correct measure of reality. Uwuigbe (2011) examines the relationship between the performance of firms and the level of corporate social, environmental sustainability reporting among firms in the Agricultural/Agro-Allied and Manufacturing industries in Nigeria. The study critically developed and utilised a disclosure index to measure the extent of sustainability disclosure made by companies in their corporate annual reports, and performance.

MATERIALS AND METHOD

This study employed an ex-post facto research design to assess the effect of sustainability reporting on the performance of industrial goods firms listed in Nigeria. This design was chosen because it is suitable for analyzing historical data to identify relationships between already occurring variables (Ikwuo et al., 2025), enabling the exploration of how sustainability practices, including social, economic, environmental and governance reporting, impact the financial performance of these firms. The population of this study consists of thirteen (13) publicly listed industrial goods firms in Nigeria, as identified from the NGX factsheet (2024). These firms are listed below:

Table 1: Population

1. Austin Laz & Company Plc.
2. Berger Paints Plc.
3. Beta Glass Plc.
4. Bua Cement Plc.
5. Cap Plc.
6. Cutix Plc.
7. Dangote Cement Plc.
8. Greif Nigeria Plc.
9. Lafarge Africa Plc.
10. Meyer Plc.
11. Notore Chemical Industries Plc.
12. Premier Paints Plc.

13. Tripple Gee And Company Plc.

Source: *NGX Factsheet (2024)*

Using a judgmental sampling technique, nine firms out of the thirteen listed were selected based on their availability of comprehensive sustainability reporting and complete financial records from 2012 to 2024. This approach ensures a robust analysis of the nexus between sustainability reporting and firm performance. The selected firms are:

Table 2: Sample Size

1. Austin Laz & Company Plc.
2. Berger Paints Plc.
3. Beta Glass Plc.
4. Cap Plc.
5. Cutix Plc.
6. Dangote Cement Plc.
7. Lafarge Africa Plc.
8. Meyer Plc.
9. Tripple Gee And Company Plc.

Source: *Researcher's Compilation (2025)*

The study utilized secondary data sourced from the annual sustainability and financial reports of the selected firms. These reports, which can be accessed through the NGX and the firms' corporate websites, cover the period from 2012 to 2024. The data included metrics necessary for calculating EVA and various sustainability indicators, ensuring data accuracy and reliability, given the auditing standards applied to these reports. The key variables in this study include sustainability reporting (social, economic, and environmental) and the financial performance (measured using economic value added).

Economic value added is measured as: $\text{Log}((\text{Net Profit} - (\text{Weighted Average Cost of Capital} \times \text{Invested Capital}))$

The operational definitions of the independent variables are as follows:

Table 3 Operationalization of Four Sustainability Reporting Indices

S/N	Index	Score (x)
1	The sustainability reporting (SR) index (environmental, economic, social or governance) was not mentioned in the company's report	1 if present or 0 if absent
2	The SR index was briefly mentioned in the chairman's report without detail information	1 if present or 0 if absent
3	The firm's sustainability report provides qualitative information on the element (environmental, economic, social or governance) of sustainability disclosure	1 if present or 0 if absent
4	There is quantitative information in the sustainability report about the sustainability index (environmental, economic, social or governance)	1 if present or 0 if absent
Total possible score for each proxy of sustainability index		4

Individual firm score for each proxy of sustainability index	x/4
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Source: Adapted from Oyerogba, Oladele, Kolawole, and Adeyemo (2024)

To estimate the effects of sustainability reporting on financial performance, the independent variables (social, economic, environmental and governance sustainability reporting) will be analyzed in relation to the dependent variable (economic value added) using panel regression analysis. The model representing these relationships was adapted from the study by Ezeokafor and Amahalu (2019) whose model is presented below:

$$EPS_{it} = \beta_0 + \beta_1 ECPD_{it} + \beta_2 SOPD_{it} + \beta_3 ENPD_{it} + E_{it} \dots\dots\dots \text{Eqn 1.}$$

Where:

- EPS_{it} = Earnings per Share for firm *i* in period *t*
- ECPD_{it} = Economic performance disclosure for firm *i* in period *t*
- SOPD_{it} = Social performance disclosure for firm *i* in period *t*
- ENPD_{it} = Environmental performance disclosure for firm *i* in period *t*

The above model was modified into what we have below:

$$EVA_{it} = \alpha_0 + \beta_1 SSR_{it} + \beta_2 ECSR_{it} + \beta_3 ENSR_{it} + \beta_4 GDSR_{it} + \epsilon_{it} \dots\dots\dots \text{Eqn 2.}$$

Where:

- EVA_{it} = Economic Value Added for firm *iii* in period *t*
- SSR_{it} = Social Sustainability Reporting for firm *iii* in period *t*
- ECSR_{it} = Economic Sustainability Reporting for firm *iii* in period *t*
- ENSR_{it} = Environmental Sustainability Reporting for firm *iii* in period *t*
- GDSR_{it} = Governance Sustainability Reporting for firm *iii* in period *t*
- ϵ_{it} = Stochastic term for firm *iii* in period *t*
- α = Constant
- β_{1-4} = Coefficients

Data analyses were conducted using Eviews 10 software. Descriptive statistics, such as mean and standard deviation, will be calculated for each variable. The panel regression analysis was applied to investigate the effect of the independent variables (sustainability reporting) on the dependent variable (firm financial performance). The essence of the descriptive statistics computed for each variable is to summarize the data characteristics. Panel regression analysis was chosen due to its ability to account for variations over time and differences across firms, providing more accurate and comprehensive perspective on how sustainability practices influence financial performance metric. The significance level for the analysis was set at 5%. A p-value less than 0.05 led to the rejection of the null hypothesis, indicating a significant

effect of sustainability reporting on EVA. Conversely, a p-value greater than 0.05 supported the null hypothesis, suggesting no significant effect.

RESULT AND DISCUSSIONS

Descriptive Analysis

The descriptive analysis carried out is shown below in Table 4.1.

Table 4 Descriptive Analysis

	EVA	SSR	ECSR	ENSR	GDSR
Mean	6.061044	0.681624	0.944444	0.495726	0.878205
Median	6.219753	1.000000	1.000000	0.500000	1.000000
Maximum	9.235831	1.000000	1.000000	1.000000	1.000000
Minimum	-3.890086	0.250000	0.500000	0.000000	0.000000
Std. Dev.	2.197259	0.362022	0.157811	0.489087	0.325986
Skewness	-1.991483	-0.285167	-2.474874	0.017076	-2.324352
Kurtosis	8.000446	1.132533	7.125000	1.054354	6.429414
Jarque-Bera	199.2339	18.58698	202.3887	18.46019	162.6853
Probability	0.000000	0.000092	0.000000	0.000098	0.000000
Sum	709.1422	79.75000	110.5000	58.00000	102.7500
Sum Sq. Dev.	560.0418	15.20299	2.888889	27.74786	12.32692
Observations	117	117	117	117	117

Source: Eviews 10 Output (2025)

The descriptive statistics for Economic Value Added (EVA) in Table 4 revealed a mean value of 6.06, indicating that on average, industrial goods firms in Nigeria generated positive economic value during the 2012–2024 period. However, the range is wide, with a maximum of 9.24 and a minimum of -3.89, reflecting notable variations in firm performance across the sector. The standard deviation of 2.20 underscores this variability. The distribution is highly negatively skewed (-1.99), suggesting that more firms had EVA values clustered at the higher end, while fewer recorded significant negative values. The kurtosis value of 8.00 implies a leptokurtic distribution, indicating the presence of extreme values or outliers. The Jarque-Bera probability of 0.000 confirms that EVA does not follow a normal distribution, hence future inferential analyses should consider non-normality or apply transformations if needed.

Regarding Social Sustainability Reporting (SSR), the average score is 0.68 out of a possible 1, suggesting that firms disclosed social sustainability elements in their annual reports to a moderate extent. The median value of 1.00 implies that over half of the observations achieved full compliance or mention of social sustainability. The minimum score of 0.25 and maximum of 1.00 indicate that no firm completely ignored social sustainability, though some did the bare minimum. The low standard deviation (0.36) shows relatively consistent reporting across firms. A slightly negative skewness of -0.29 indicates a mild left-tail bias, and a kurtosis of

1.13 suggests a flatter than normal distribution. The Jarque-Bera p-value of 0.000092 suggests non-normality in the distribution of SSR scores.

The Economic Sustainability Reporting (ECSR) variable has the highest mean score of 0.94, pointing to a high level of economic sustainability disclosure among the firms. The median and maximum values are both 1.00, further confirming widespread inclusion of economic sustainability information. The minimum value of 0.50 shows that all firms reported at least half of the key elements in the economic dimension. A low standard deviation (0.16) implies strong consistency in reporting practices. However, the extremely negative skewness (-2.47) suggests most firms scored near the maximum with a few lagging significantly. The kurtosis of 7.13 indicates a heavy-tailed distribution, and the Jarque-Bera p-value confirms non-normality.

In terms of Environmental Sustainability Reporting (ENSR), the mean score is 0.50, showing relatively lower disclosure compared to social and economic sustainability. The median value of 0.50 aligns with the mean, indicating a balanced spread of firms scoring low and high on environmental disclosures. The score ranges from 0.00 to 1.00, meaning some firms did not report any environmental sustainability elements at all. The high standard deviation of 0.49 reflects considerable disparity in reporting practices. Skewness is almost neutral at 0.02, suggesting a symmetric distribution, while the kurtosis of 1.05 suggests a flatter-than-normal distribution. The Jarque-Bera p-value still shows that the data is not normally distributed.

Governance Disclosure in Sustainability Reporting (GDSR) shows a high mean of 0.88 and a median of 1.00, indicating strong disclosure performance by most firms in this area. The minimum score of 0.00 reveals that some firms provided no governance disclosures at all. The standard deviation of 0.33 signals some variability, though not excessive. The distribution is heavily left-skewed (-2.32), pointing to a concentration of firms with full compliance and a few with poor reporting. The kurtosis value of 6.43 again suggests a leptokurtic distribution with heavy tails, and the Jarque-Bera p-value of 0.000 confirms that this variable is also not normally distributed.

Test of Hypotheses

Based on the output of the preliminary tests, there was need to address both heteroskedasticity and cross-sectional dependence. Hence, Cross-section Seemingly Unrelated Regression weights were added to the panel least squares during the hypotheses testing.

Table 5 Test of Hypotheses

Dependent Variable: EVA
 Method: Panel EGLS (Cross-section SUR)
 Date: 06/24/25 Time: 22:24
 Sample: 2012 2024
 Periods included: 13
 Cross-sections included: 9
 Total panel (balanced) observations: 117
 Linear estimation after one-step weighting matrix
 Cross-section SUR (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SSR	0.908252	0.117858	7.706355	0.0000
ECSR	4.460515	1.461010	3.053036	0.0029
ENSR	-0.571782	0.055160	-10.36589	0.0000
GDSR	-2.066267	0.737371	-2.802207	0.0061
C	3.327303	0.743473	4.475348	0.0000
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.945483	Mean dependent var	37.82026	
Adjusted R-squared	0.939193	S.D. dependent var	33.94590	
S.E. of regression	0.960188	Sum squared resid	95.88395	
F-statistic	150.3052	Durbin-Watson stat	1.658142	
Prob(F-statistic)	0.000000			

Source: Eviews 10 Output (2025)

The overall model in Table 5 is highly valid and statistically significant. The Adjusted R-squared value of 0.9392 indicates that approximately 94% of the variations in Economic Value Added (EVA) of listed industrial goods firms in Nigeria are jointly explained by the four sustainability reporting variables: social, economic, environmental, and governance disclosures. This shows a very strong model fit. Additionally, the F-statistic has a p-value of 0.000000, confirming that the explanatory variables, taken together, have a statistically significant effect on EVA at the 1% level. The Durbin-Watson statistic of 1.6581 suggests no strong autocorrelation problem in the residuals.

The constant term ($C = 3.3273$, $p = 0.0000$) is statistically significant at the 1% level. This means that when all sustainability reporting variables are held constant at zero, the baseline economic value added for these firms is 3.327 units. In practical terms, it implies that even in the absence of sustainability disclosures, these firms still generate positive EVA, potentially due to other unobserved or inherent operational efficiencies.

Hypothesis One

H_{01} : Social sustainability reporting has no significant effect on the Economic Value Added of listed industrial goods firms in Nigeria.

H_{11} : Social sustainability reporting has significant effect on the Economic Value Added of listed industrial goods firms in Nigeria.

The coefficient for Social Sustainability Reporting (SSR) is 0.9083, with a p-value of 0.0000, indicating that the effect is statistically significant at the 5% level. The marginal effect suggests that for every one-unit increase in the level of social sustainability reporting (e.g., more comprehensive reporting on social practices like employee welfare, community engagement, etc.), EVA increases by approximately 0.91 units. This implies a positive and significant effect, meaning improved social sustainability disclosures contribute meaningfully to the economic performance of firms. Thus, H_{01} is rejected while the alternate hypothesis was accepted, and we conclude that social sustainability reporting has a significant effect on EVA.

The finding is consistent with studies like Duke and Kankpang (2013) who found that social responsibility (e.g., waste and pollution management) positively affects financial performance in Nigeria. Nnamani, Onyekwelu, and Ugwu (2017) also confirmed a significant positive relationship between CSR activities and financial performance in Nigeria. Conversely, Akpan and Simeon (2021) reported a positive but insignificant effect of social disclosure on investment returns in Nigerian oil and gas firms, suggesting industry-specific variations. In contrast, Hashim, Ries, and Huai (2019) found a non-significant link between social costs and monetary performance in South-East Africa, showing that contextual and regulatory environments matter.

Hypothesis Two

H₀₂: Economic sustainability reporting does not significantly affect Economic Value Added of listed industrial goods firms in Nigeria.

H₁₂: Economic sustainability reporting significantly affects Economic Value Added of listed industrial goods firms in Nigeria.

The coefficient for Economic Sustainability Reporting (ECSR) is 4.4605, with a p-value of 0.0029, which is also significant at the 5% level. The marginal effect here is particularly strong: a one-unit improvement in economic sustainability disclosures leads to an increase of approximately 4.46 units in EVA. This means that firms that extensively report on their economic performance, risk management, long-term financial goals, and business continuity plans tend to generate significantly higher economic value. The magnitude and significance of this effect underscore the importance of transparent economic disclosures. As such, H₀₂ is rejected while the alternate hypothesis was accepted, and it is concluded that economic sustainability reporting has a significant effect on EVA.

This aligns with Effiong, Oti, and Akpan (2019), who demonstrated that economic disclosures significantly affect EVA, market value added, and cash flow returns. Similarly, Ikechukwu and Blessing (2020) in Nigeria found that sustainability reporting significantly influences EVA. Kwaghfan (2015) affirmed a positive and significant relationship between sustainability reporting and corporate performance. However, Asuquo, Dada, and Raphael (2019) found no significant effect of economic performance disclosure on ROA in Nigeria, and Ifeanyi et al. (2020) similarly noted an insignificant impact—suggesting that EVA might be more sensitive to economic disclosures than accounting metrics like ROA.

Hypothesis Three

H₀₃: Environmental sustainability reporting does not significantly affect Economic Value Added of listed industrial goods firms in Nigeria.

H₁₃: Environmental sustainability reporting significantly affects Economic Value Added of listed industrial goods firms in Nigeria.

The coefficient for Environmental Sustainability Reporting (ENSR) is -0.5718, with a p-value of 0.0000, indicating a statistically significant effect at the 5% level, but the effect is negative. This means that a one-unit increase in environmental sustainability reporting leads to a decrease in EVA by approximately 0.57 units. This finding suggests that while environmental disclosures are ethically and socially desirable, in this context they may be associated with

higher compliance costs, investment in green technologies, or other financial burdens that reduce short-term economic value. Therefore, H_{03} is rejected while the alternate hypothesis was accepted, and we conclude that environmental sustainability reporting significantly affects EVA, but the effect is negative.

This result is supported by Makori and Jagongo (2013) in India, who found a negative but significant relationship between ecological variables and firm returns. Similarly, Abubakar (2017) in Nigeria found a negative but significant influence of board size (as a governance proxy) on environmental disclosure. Ighosewe and Asaba (2021) also observed that environmental disclosure reduces Tobin Q significantly. However Ezeagba, Racheal, and Chiamaka (2017) found that environmental disclosures positively impact firm market value, suggesting that the observed negative effect may depend on the type of environmental initiative and the stakeholder response in the Nigerian industrial sector.

Hypothesis Four

H_{04} : Governance disclosures does not significantly affect Economic Value Added of listed industrial goods firms in Nigeria.

H_{i4} : Governance disclosures significantly affects Economic Value Added of listed industrial goods firms in Nigeria.

The coefficient for Governance Disclosures (GDSR) is -2.0663, with a p-value of 0.0061, indicating that the effect is statistically significant at the 5% level. The marginal effect shows that a one-unit increase in governance disclosure reduces EVA by about 2.07 units. This negative effect may reflect overregulation or excessive governance overhead, which could weigh down firm performance in the short term. It may also point to governance disclosures being more symbolic than operationally impactful in the industrial goods sector. Therefore, H_{04} is rejected while the alternate hypothesis was accepted, and we conclude that governance disclosures have a significant negative effect on EVA.

This finding is in line with Githaiga and Kosgei (2023) who found a negative impact of board size on sustainability reporting, implying that larger boards may reduce governance effectiveness. Abubakar (2017) also observed a negative relationship between board size and environmental disclosure in Nigerian firms. However, Alodat, Saleth, and Hashim (2023) in Jordan found a favorable association between governance quality and sustainability disclosures. Likewise, Gallego Alvarez and Rodriguez Dominguez (2023) found that diverse and experienced boards enhance environmental project disclosures, highlighting that

governance impact may vary depending on board structure and corporate culture. Thus, the Nigerian case may reflect inefficiencies in governance practice rather than governance itself.

CONCLUSION AND RECOMMENDATIONS

The results of the study highlight the nexus between different dimensions of sustainability reporting and financial performance, as proxied by Economic Value Added (EVA), in Nigeria's industrial goods sector. The findings indicate that firms engaging in social and economic sustainability reporting experience improved financial outcomes. This suggests that initiatives aimed at enhancing social welfare and economic stability, such as employee development, community engagement and infrastructure investment, are well-received by stakeholders and could translate into higher productivity, brand equity, and long-term financial gains. These outcomes highlight the strategic importance of aligning firm operations with societal and economic expectations in a way that enhances stakeholder trust and operational efficiency. However, the negative effects of environmental sustainability reporting and governance disclosures on EVA suggest complexities in the cost-benefit trade-offs of these dimensions. Environmental reporting might be associated with increased compliance costs, capital expenditure on greener technology, or inefficiencies in transitioning to sustainable operations, which could reduce short-term financial performance despite long-term environmental benefits. Similarly, the negative effect of governance disclosures could indicate that increased transparency and board oversight may expose inefficiencies, trigger stricter regulatory scrutiny, or constrain executive decision-making autonomy, thereby impacting EVA negatively. These observations reveal potential tensions between stakeholder-oriented governance and the pursuit of short-term economic value.

Collectively, the findings reflect the multidimensional nature of sustainability reporting and its diverse financial implications within the Nigerian industrial sector. They highlight how certain sustainability practices can be financially beneficial while others may impose burdens or signal internal governance challenges. This complexity necessitates a deeper consideration of the context in which sustainability activities are undertaken, including regulatory environments, stakeholder expectations, and industry-specific operational dynamics. The results also suggest that firms' responses to sustainability reporting are shaped by the perceived value or cost of such disclosures to investors and other capital market participants.

The study therefore recommends that:

1. Industrial goods firms need to appoint sustainability officers in order to intensify and institutionalize social sustainability initiatives such as employee engagement programs, health and safety policies, and community development projects, as these have been empirically shown to contribute positively and significantly to economic value added, enhancing both social impact and financial performance.
2. Strategic Planning Units of Listed Industrial Goods Firms need to prioritize comprehensive economic sustainability reporting by clearly articulating contributions to local economies, employment creation, and long-term value retention in corporate reports, since these economic disclosures have demonstrated a strong positive relationship with enhanced financial performance.
3. Environmental Compliance Officers need to critically evaluate the efficiency and cost-effectiveness of environmental sustainability programs, in order to ensure that environmental reporting practices are aligned with financial goals, as current evidence indicates that environmental disclosures, when not strategically managed, can negatively impact economic value added.
4. Boards of Directors and Corporate Governance Committees need to re-examine the structure, volume, and content of governance disclosures to eliminate excessive or redundant reporting practices that may be perceived as bureaucratic or cost-intensive, given the significant negative impact such disclosures have been shown to exert on the financial performance of industrial goods firms.

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