Sustainability Reporting and Financial Performance of Quoted Oil and Gas Companies in Nigeria

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Abstract
This study empirically investigated the relationship between sustainability reporting and financial performance of quoted manufacturing companies in Nigeria. To achieve this objective, theoretical, conceptual, and empirical literature on sustainability reporting on financial performance were exhaustively reviewed. The population of the study consists of twelve quoted oil and gas companies on the Nigerian stock exchange. The study adopts purposive sampling techniques to select ten quoted oil and gas companies as the sample size. Secondary data were obtained from audited financial reports and sustainability reports of quoted oil and gas companies in Nigeria from 2013-2022. Hypotheses formulated were tested using ordinary least square regression with the aid of Eview 10 econometrics statistical software. The findings show that sustainability reporting had a significant impact on financial performance of quoted oil and gas companies in Nigeria. Empirical evidence suggests that environmental sustainability reporting had a significant relationship with return on equity and return on asset of quoted oil and gas companies in Nigeria. Empirical evidence indicates that social sustainability reporting had a significant relationship with return on equity and return on asset of quoted oil and gas companies in Nigeria. Empirical evidence reveals that economic sustainability reporting had a significant relationship with return on equity and return on assets of quoted oil and gas companies in Nigeria. The study concludes that sustainable reporting promotes value creation, brand reputation, attracts investors, lowers operational costs, and improves risk management, leading to superior financial performance. The study recommends, among others that corporate organizations should adopt widely recognized international sustainability reporting standards, such as the global reporting initiative, the task force on climate-related financial disclosures, and the sustainability accounting standards board; these standards can help ensure consistency, comparability, and credibility of sustainability reports. Regulatory bodies should play an active role in monitoring and enforcing compliance with sustainability reporting requirements, this will involve regular audits, reviews, and the provision of feedback to companies to improve their reporting practices.

Keywords: *Sustainability Reporting, Financial Performance, Nigeria*

Introduction

Sustainability reporting emerged as a response to the growing concerns about the environmental, social and governance impacts of corporate organizations such as pollution, climate change, depletions of natural resources, labour rights, workplace safety, diversity, community development, ethical behavior, transparency and accountability. Organizations and stakeholders demand for greater transparency and accountability in non-financial aspects of business operations. The demand by stakeholder such as investors, customers, employees, and regulators, for information on company's environmental, social, and governance performance has necessitated the need for company to report on their environmental indicators apart from their annual financial reports. Sustainability reporting provides an avenue for companies to communicate their non-financial performance and demonstrate their commitment to responsible business practices. Sustainability reporting helps companies manage risks, improve operational efficiency, build trust with stakeholders, and gain a competitive advantage. Sustainability reporting helps businesses articulate their sustainability goals, track their progress, and communicate their achievements to stakeholders. Klynveld Peat Marwick Goerdeler (KPMG, 2020) stated that sustainability reporting has become an essential aspect of modern corporate reporting as it presents the environmental, social, and economic performance of companies. Ako (2019) reported that Nigerian oil and gas sector accounts for a significant portion of the country's gross domestic product and foreign exchange earnings, has been grappling with various sustainability challenges, including environmental pollution, community unrest, and corruption. Sustainability reporting enables businesses to communicate their commitment to sustainable development and demonstrate their progress towards achieving specific goals (KPMG, 2020). In Nigeria, sustainability reporting has gained traction in recent years, with more companies voluntarily adopting reporting practices in line with international standards (Adeyemo & Oyewo, 2019). The Nigerian stock exchange introduced sustainability disclosure guidelines in 2015, mandating listed companies to disclose their environmental, social, economic and governance performance in their annual reports or stand alone sustainability reporting (Nigerian Stock Exchange, (NSE), 2015). Odia and Ogiedu (2013) suggested that this policy move was aimed at promoting transparency, accountability, and responsible business practices among firms. Nigerian oil and gas companies have increasingly adopted sustainability reporting, with many firms publishing stand-alone sustainability reports or integrating sustainability information into their annual financial reports. Several regulatory bodies and guidelines shape the landscape of sustainability reporting in Nigeria. The Securities and Exchange Commission, the corporate affairs commission, and the Nigeria stock exchange play vital roles in promoting and enforcing sustainability reporting practices among Nigerian companies (Adeyemo & Oyewo, 2019). In 2011, the Securities and Exchange Commission introduced the Nigerian code of corporate governance, which emphasizes the importance of corporate social responsibility and sustainability reporting for listed companies (Securities and Exchange Commission (SEC), 2011).

The code requires companies to disclose their corporate social responsibility activities and communicate their sustainability performance to stakeholders. The Nigeria stock exchange sustainability disclosure guidelines (2015) build upon the Securities and Exchange Commission's code, providing more comprehensive framework for listed companies to report on their Environmental, Social, economic and Governance performance. These guidelines encourage companies to adopt internationally recognized reporting standards, such as the global reporting initiative and the international integrated reporting council framework. They advocate for the use of the United Nations sustainable development goals as a benchmark for

assessing sustainability performance (NSE, 2015). The Nigerian government has enacted several regulations and policies aimed at promoting sustainable business practices, including the national environmental standards and regulations enforcement agency act (2007) and the companies and allied matters act (2020). These regulations require companies to comply with environmental and social standards, aligning their operations with sustainable development principles (Adeyemo & Oyewo, 2019). Sustainability reporting is the practice of measuring, revealing, and being accountable for an organization's environmental, social, and governance performance. It entails the systematic collecting, analysis, and transmission of data associated to a company's activities, policies, and societal and environmental implications. The fundamental goal of sustainability reporting is to give relevant and credible information to stakeholders such as investors, consumers, employees, and regulators in order for them to analyze an organization's sustainability performance and make educated decisions. Global reporting initiative (GPI, 2021) stated that sustainability reporting is the practice of disclosing a company's environmental, social and economic performance to stakeholders, including shareholders, employees, customers, and regulators. The sustainability accounting standards board (SASB, 2021) narrated that sustainability reporting as the process of disclosing information about an organization's environmental, Social and governance performance and its impact on long-term value creation. Sustainability reporting was proxied by environmental sustainability social and economic sustainability reporting. Environmental sustainability reporting is the practice of measuring, revealing, and communicating an organization's environmental performance, policies, and impacts is known as environmental sustainability reporting. This element of sustainability reporting focuses on how organizations manage their operations and activities in order to reduce negative environmental impacts, conserves natural resources, and contributes to environmental protection and restoration**.** GRI (2021) stated that environmental sustainability reporting as the practice of measuring, disclosing, and being accountable to internal and external stakeholders for an organization's performance and impact on the environment. Social sustainability reporting is the process by which organizations communicate their social performance and impact to stakeholders. SASB (2022) stated that social sustainability reporting as the process of disclosing information about an organization's social performance and impact, including its compliance with labor and human rights laws, community engagement, and diversity and inclusion practices. Economic sustainability reporting is the disclosure and communication of an organization's financial performance and its economic impact, both locally and globally. These parts of sustainability reporting focuses on how firms produce long-term value, contribute to economic growth, and assure resource efficiency to maintain financial stability and success. GRI (2021) stated that economic sustainability reporting as the practice of measuring, disclosing, and being accountable to internal and external stakeholders for an organization's economic performance and impact, including its financial results, economic value creation, and contributions to sustainable economic development.

Sustainability reporting assists firms in identifying, assessing, and managing environmental, social and governance risks that may have an impact on their financial performance. Companies can reduce possible costs and disruptions by proactively addressing these risks, thereby improving their financial resilience and stability. Companies that invest in sustainable practices and report on their environmental, social, and governance performance are more likely to achieve operational efficiency and save costs. This is due to variables such as lower energy use, reduced waste output, and improved resource management, all of which contribute to enhanced financial performance. Companies that have solid sustainability reporting processes are frequently viewed as more appealing to investors. This is due to the

fact that such organizations display a commitment to responsible and transparent business processes, which can assist decrease investment risks and increase long-term value generation. As a result, these businesses can obtain finance on more advantageous terms and at a cheaper cost (Grewatsch & Kleindienst, 2021; Herzig & Schaltegger, 2011). Companies who engage in sustainability reporting and implement sustainable practices can set themselves apart from competitors and establish a stronger brand reputation. This can result in increased customer loyalty, market share, and revenue growth, all of which contribute to improved financial success. Employees are more engaged and productive in companies that have strong sustainability reporting processes. This is because such businesses are regarded as responsible employers capable of attracting and retaining top talent, fostering a great work environment, and driving higher levels of productivity, all of which lead to improved financial performance. Companies can use sustainability reporting to demonstrate compliance with relevant environmental, social, governance standards and avoid potential fines and penalties. This not only eliminates financial risks, but also allows businesses to keep ahead of changing regulatory landscapes, putting them in a position for long-term success. Financial performance was proxied by return on equity and return on asset Financial performance is a measure of a company's financial outcomes and overall health over a certain time period, such as a quarter, a year, or a multi-year span. Financial performance is an important sign of a company's success, stability, and potential for expansion. Various stakeholders, including investors, creditors, regulators, and the company's management team, attentively examine it in order to make educated judgments about investments, lending, and strategic planning.

Financial Management Association International (FMAI, 2021) stated that financial performance as the ability of a company to create value for its shareholders and other stakeholders by generating positive returns on its investments, generating cash flows, and effectively managing its financial resources and obligations. Institute of Management Accountants (IMA, 2021) reported that return on equity as a financial ratio that measures a company's profitability by dividing net income by average shareholder equity. American Institute of Certified Public Accountants (AICPA, 2021) stated that return on equity as a measure of a company's ability to generate profits from its shareholder equity, calculated by dividing net income by average shareholder equity. Return on equity illustrates how efficiently a company uses its equity to generate profits, providing insight into its management and financial decision-making efficiency. Return on equity is very essential for investors since it allows them to evaluate a company's ability to create value for its shareholders. IMA (2021) stated that return on assets as a financial ratio that measures a company's ability to generate profits from its assets, calculated by dividing net income by total assets. Return on asset assesses how well a company uses its assets to generate earnings, providing insight on management effectiveness and operational performance. Return on asset is useful to investors, creditors, and other stakeholders because it allows them to evaluate a company's ability to generate value from its resources. There is no globally agreed standard for sustainability reporting at the moment, which contributes to discrepancies and differences in reporting procedures between firms (KPMG, 2020). This makes comparing the environmental, social and governance performance of different organizations and assessing the relationship between sustainability reporting and financial performance difficult for investors and other stakeholders (de Villiers et al., 2011). Sustainability reporting frequently relies on self-reported data, which can be biased and inaccurate (Adams & McNicholas, 2007). Owen et al. (2000) highlighted that the absence of third-party verification and assurance of sustainability reports can jeopardize the veracity of the information presented, complicating the assessment of the relationship between sustainability reporting and financial

performance. While several studies have discovered a positive relationship between sustainability reporting and financial performance, establishing a causal relationship is difficult due to the presence of various confounding factors such as industry characteristics, company size, and market conditions (Friede et al., 2015). Sustainability projects can incur upfront expenditures and may not generate immediate financial returns, thus generating a conflict between short-term financial success and long-term sustainability goals (Eccles et al., 2014). This can make assessing the impact of sustainability reporting on financial performance difficult, especially over shorter time frames.

Extensive empirical literature review indicate that there are scanty literature on sustainability reporting with some of the studies focuses on sustainability reporting and firm value in Nigeria context (see Emeka-Nwokeji and Benjami 2019; Anto 2021; Atanda et al., 2021; Gift et al., 2021; Emeka-Nwokeji 2019; Ebimobowei and Uche 2021) while this current study focused on sustainability reporting and financial performance of quoted oil and gas companies in Nigeria. Empirical literature review on sustainability reporting and financial performance offers divergent views spanning from positive to negative, significant to non significant, others have reported a neutral, yielding mixed results. The relationship between sustainability reporting and firm performance has provided no conclusive evidence whether the relationship is positive (see Amahalu et al., 2017; Okafor, 2018; García-Sánchez et al., 2019), negative (Liu et al., 2019; Erhirhie & Ekwueme, 2019; Yahaya, 2019; Baalouch et al., 2019; Friede et al., 2015; Clark et al., 2015; Barnett & Salomon, 2012; Orlitzky et al., 2003). Some of this empirical evidence on sustainability reporting and financial performance was conducted in developed economic (see Frost et al., 2005; Khan et al., 2009; Ghosh 2017). In the context of Nigeria, the literature on sustainability reporting and financial performance is sparse, necessitating further investigation thereby constituting a gap in knowledge which this study tends to fill. In the light of those contradictory results obtained from existing literature, this study sought to investigate the relationship between sustainability reporting and financial performance of quoted oil and gas firms in Nigeria

Statement of Problem

Companies' potential health and environmental risks, as well as the goods and services they provide, are increasing pressure on businesses to develop, analyses, and make publicly available information on their sustainability indicators and impacts. Sustainability reporting represents a potential mechanism for generating data and measuring progress and the contribution of companies to global sustainable development. Eccles et al. (2012) noted that sustainability reporting has evolved into an essential component of business disclosure and openness. Companies are expected to report on their sustainability performance in order to demonstrate their commitment to responsible business practices and to address the growing concerns of stakeholders such as investors, customers, and regulators. Despite the growing relevance of sustainability reporting, there are issues involved with tying sustainability performance to financial performance, which can have an impact on the quality and usability of such reporting. Companies frequently report on their sustainability performance using diverse measures and frameworks, making it difficult for stakeholders to compare their performance to that of their peers and assess the impact of sustainability activities on financial results (Serafeim, 2018). Many sustainability projects have non-monetary benefits, such as increased staff well-being, improved brand reputation, or reduced environmental dangers. These non-financial benefits can be difficult to quantify and convert into monetary terms, making it difficult for businesses to establish the link between sustainability and financial performance (Eccles & Serafeim, 2014). Companies sometimes prioritize short-term

financial performance over long-term sustainability goals due to investor and analyst pressure to generate fast returns. This short-term concentration can make it difficult for businesses to invest in long-term financial benefits that may not provide immediate financial returns (Busch et al., 2016). Companies face diverse stakeholder expectations about sustainability reporting and its relationship to financial performance. Some investors, for example, may prioritize environmental performance, whilst others may favor social or governance issues. This variability in stakeholder expectations might make it difficult for businesses to build a unified sustainability reporting strategy that covers all stakeholders' various concerns (Brammer et al., 2012).

Conceptual Framework

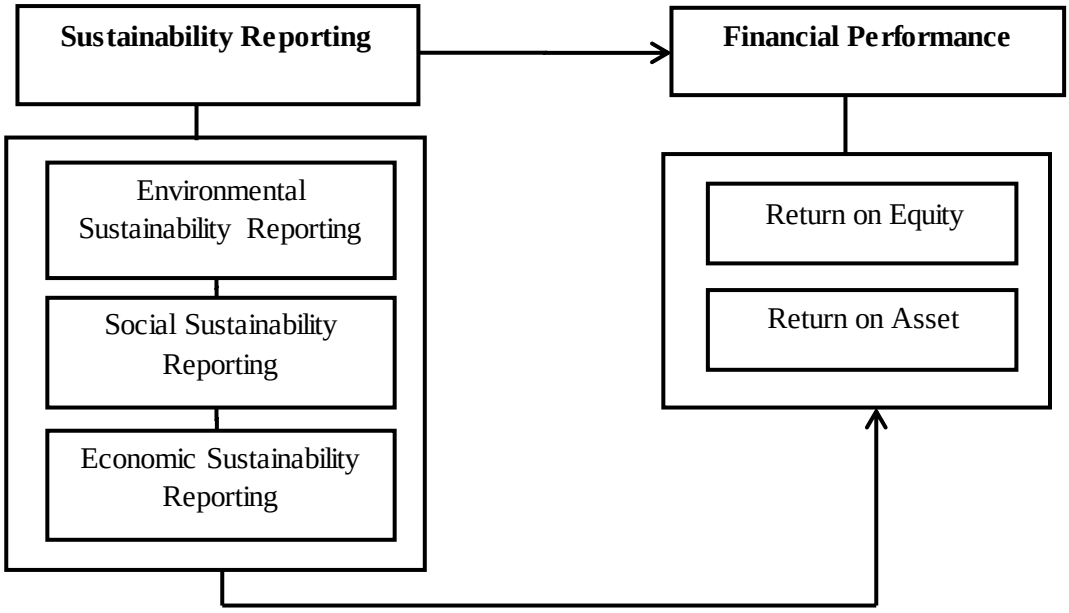


Fig. 1.1: Conceptual Framework of the Relationship between Sustainability Reporting and Financial Performance

Conceptual framework is a collection of interconnected concepts and theories that assist researchers in identifying patterns, relationships, and causation within a certain area of investigation, allowing them to make sense of complex data and discoveries. Conceptual framework is a cognitive structure that combines several concepts, theories, and variables into a unified whole, allowing researchers to clarify their assumptions, discover study gaps, and improve their research questions. Sustainability reporting is the predictor variable, which is proxied by environmental, social, and economic sustainability reporting, while financial performance is the criterion variable, which is proxied by return on equity and return on asset.

Purpose of the Study

The purpose of the study is to investigate the relationship between sustainability reporting and financial performance of quoted oil and gas companies in Nigeria. The specific objectives are to:

1. Assess the relationship between environmental sustainability reporting and return on equity of quoted oil and gas companies in Nigeria.

2. Evaluate the relationship between environmental sustainability reporting and return on asset of quoted oil and gas companies in Nigeria
3. Investigate the relationship between social sustainability reporting and return on equity of quoted oil and gas companies in Nigeria
4. Assess the relationship between social sustainability reporting and return on asset of quoted oil and gas companies in Nigeria.
5. Evaluate the relationship between economic sustainability reporting and return on equity of quoted oil and gas companies in Nigeria
6. Assess the relationship between economic sustainability reporting and return on asset of quoted oil and gas companies in Nigeria.

Research Questions

The following research questions were addressed:

1. What is the relationship between environmental sustainability reporting and return on equity of quoted oil and gas companies in Nigeria?
2. What is the relationship between environmental sustainability reporting and return on asset of quoted oil and gas companies in Nigeria?
3. What is the relationship between social sustainability reporting and return on equity of quoted oil and gas companies in Nigeria?
4. What is the relationship between social sustainability reporting and return on asset of quoted oil and gas companies in Nigeria?
5. What is the relationship between economic sustainability reporting and return on equity of quoted oil and gas companies in Nigeria?
6. What is the relationship between economic sustainability reporting and return on asset of quoted oil and gas companies in Nigeria?

Research Hypotheses

The following hypothesis were tested

H_{o1}: There is no significant relationship between environmental sustainability reporting and return on equity of quoted oil and gas companies in Nigeria.

H_{o2}: There is no significant relationship between environmental sustainability reporting and return on asset of quoted oil and gas companies in Nigeria

H_{o3}: There is no significant relationship between social sustainability reporting and return on equity of quoted oil and gas companies in Nigeria

H_{o4}: There is no significant relationship between social sustainability reporting and return on asset of quoted oil and gas companies in Nigeria.

H_{o5}: There is no significant relationship between economic sustainability reporting and return on equity of quoted oil and gas companies in Nigeria

H_{o6}: There is no significant relationship between economic sustainability reporting and return on asset of quoted oil and gas companies in Nigeria

Literature Review

Theoretical Framework

Legitimacy Theory

Dowling and Pfeffer proposed legitimacy theory in 1975. Legitimacy theory posits that for a corporation to continue to exist it must act in congruence with society's values and norms. (Dowling & Pfeffer, 1975) Legitimacy theory is founded on social contracts, explains why

and how firms voluntarily disclose information about their social and environmental actions, including sustainability reporting. Organizations aim to legitimate their existence and conduct, according to the idea, by demonstrating that they adhere to the values and expectations of the society in which they operate (Deegan, 2002). Sustainability reporting can be viewed as a means for firms to preserve or gain credibility by disclosing their social and environmental performance to stakeholders. One of the key assumptions of legitimacy theory is that organizations and society have a social compact in which companies are allowed certain rights and privileges in exchange for achieving societal expectations (Gray et al., 1996). Organizations are expected to report on their economic, social, and environmental performance in the framework of sustainability reporting, assuring transparency and accountability in their operations. Legitimacy theory asserts that organizations aim to retain legitimacy by adhering to societal norms and expectations (Deegan, 2002). Companies use sustainability reporting to demonstrate their commitment to social and environmental responsibilities and, as a result, to keep their social license to operate (Dowling & Pfeffer, 1975). Deegan (2002) stated that companies may engage in sustainability reporting to address public concerns and expectations about their social and environmental activities. This study is anchored on legitimacy theory because it is based on social contract which addressing the concern of stakeholders.

Stakeholder Theory

Stakeholder theory was proposed by Freeman in 1984. Stakeholder theory stated that, corporations have obligations to stakeholders other than shareholders, such as employees, customers, suppliers, and local communities. Companies can convey their social, environmental, and economic performance to stakeholders through sustainability reporting (Gray et al., 1996). Stakeholder theory stated that organizations should engage in sustainability reporting in order to address the information needs and expectations of diverse stakeholder groups and maintain relationships with stakeholders and build trust, improve stakeholder involvement and incorporation of stakeholder feedback into business decision-making (Freeman, 1984). Stakeholder theory point that firms must consider the interests and expectations of numerous stakeholders, such as shareholders, employees, consumers, suppliers, communities, and others who are impacted by their actions (Freeman, 1984). Stakeholder theory proposes that in the context of sustainability reporting, firms should reveal their social, environmental, and economic performance in order to fulfill the concerns and expectations of their varied stakeholder groups. Organizations should participate in active discussion and communication with their stakeholders, according to one major premise of stakeholder theory (Freeman et al., 2007). By providing relevant and transparent information on an organization's social, environmental, and economic impacts, sustainability reporting can be viewed as a tool for facilitating this dialogue. Various sustainability reporting frameworks and criteria, such as the Global Reporting Initiative, the Sustainability Accounting Standards Board, and the Task Force on Climate-related Financial Disclosures, have evolved in response to stakeholder demands. These frameworks are intended to assist firms in identifying important issues and communicating their sustainability performance to stakeholders in a consistent and comparative manner (KPMG, 2017). This study is anchored on stakeholder theory because stakeholder theory enables companies to better understand their stakeholders' requirements and expectations and, as a result, modify their reporting to satisfy these concerns. This method can result in stronger stakeholder connections, better risk management, and better decision-making (Eccles et al., 2014). Stakeholder theory provides useful insights into the practice of sustainability reporting by emphasizing the need of taking

into account and meeting the expectations of diverse stakeholder groups through open communication of an organization's social, environmental, and economic performance.

Conceptual Review

Sustainability Reporting

Sustainability reporting is the practice of disclosing information about a company's environmental, social, and economic performance to stakeholders such as investors, customers, employees, regulators, and the public (KPMG, 2020). Sustainability reporting is the process of disclosing and communicating to stakeholders and organization's environmental, social, and economic and governance performance and their impact on the environment and society. Sustainability reporting's major purpose is to provide a clear and comprehensive picture of a company's sustainability activities, accomplishments, and problems, proving its commitment to responsible business practices and long-term value generation. The four components of sustainability reporting are environmental, social, economic and governance sustainability reporting. Environmental sustainability reporting covers data on the organization's energy consumption, greenhouse gas emissions, water usage, waste management, and impact on biodiversity and ecosystems. It also discusses the company's attempts to reduce its environmental footprint, such as the implementation of cleaner technology, resource efficiency initiatives, and the transition to renewable energy sources. Social sustainability reporting focus on organization impacts on individuals, communities, and society as a whole. It involves labor practices, employee health and safety, diversity and inclusion, human rights, community engagement, and product responsibility, among other things. The goal is to show the organization's dedication to ethical and responsible business practices that benefit all stakeholders. Economic sustainability reporting is the process of disclosing information about an organization's economic performance and impact, including its financial results, economic value creation, and contributions to sustainable economic development. (SASB, 2021) Governance sustainability reporting focuses on the internal structures, policies, and decision-making processes that lead the organization's sustainability efforts. It may include information on the makeup of the board, executive compensation, risk management, stakeholder involvement, and compliance with applicable laws, regulations, and industry standards. Sustainability reporting ensures accountability, stakeholders' engagement, benchmarking and continuous improvement, access to capital.

Sustainability reporting enables companies to demonstrate their commitment to responsible business practices, communicate their progress towards achieving specific sustainability goals, and meet the growing expectations of stakeholders (Eccles et al., 2012). Sustainability reporting allows companies to engage with stakeholders, fostering trust, accountability, and long-term relationships (Eccles et al., 2012). Sustainability reporting helps companies identify and address sustainability risks and opportunities, enhancing their ability to adapt to changing market conditions, regulations, and stakeholder expectations (Dhaliwal et al., 2011). Sustainability reporting can improve a company's access to capital by providing investors with reliable information on the company's sustainability performance and long-term value creation (Eccles & Serafeim, 2014). Companies that demonstrate a commitment to sustainability through reporting are more likely to achieve a competitive advantage, as they can optimize resource use, drive innovation, and adapt to changing market conditions (Porter & Kramer, 2011). Global Reporting Initiative standards are the most widely used sustainability reporting guidelines, providing a comprehensive framework for reporting on environmental, social, and economic performance indicators (GRI, 2021). The Sustainability

Accounting Standards Board Standards provide industry-specific reporting guidance for disclosing material environmental, social, and governance issues (SASB, 2021). The International Integrated Reporting Framework encourages companies to report on their value creation process, considering financial, manufactured, intellectual, human, and social and relationship, and natural capital (International Integrated Reporting Council, (IIRC), 2013). The Task Force on Climate-related Financial Disclosures (TFCRD, 2017) provides recommendations for companies to disclose climate-related financial risks and opportunities, allowing stakeholders to assess a company's resilience to climate change. To ensure effective sustainability reporting, companies should consider the following best practices: Focus on material issues, i.e., those with a significant impact on the company's sustainability performance and of importance to stakeholders (GRI, 2021; SASB, 2021). Engage with stakeholders to identify their expectations and concerns, and incorporate their feedback into the reporting process (GRI, 2021). Provide accurate, clear, and reliable information on the company's sustainability performance, including both successes and challenges (GRI, 2021). Use standardized reporting frameworks and metrics, such as the GRI Standards or SASB Standards, to allow stakeholders to compare the company's sustainability performance with that of its peers (GRI, 2021; SASB, 2021). Integrate sustainability reporting into the company's overall corporate reporting and decision-making processes to ensure that sustainability considerations are embedded in the company's strategy and operations (IIRC, 2013). Obtain external assurance for the company's sustainability report to enhance credibility and ensure the accuracy of the disclosed information (GRI, 2021). Regularly review and update the company's sustainability reporting practices to ensure that they remain relevant, effective, and aligned with emerging trends and stakeholder expectations (GRI, 2021).

Environmental Sustainability Reporting

Carbon Trust (2021) reported that environmental sustainability reporting as the process of measuring, disclosing, and being accountable for an organization's environmental performance and impact, including its greenhouse gas emissions, energy and resource use, and waste and pollution. GRI (2011) noted that environmental sustainability reporting is concerns on organizations impacts on living and non living natural systems, including ecosystem, land, air and water Mary (2010) suggested that environmental sustainability advocates that human being carry out their activities such that environmental resources used can be replenished as fast as possible. GRI (2013) posited that environmental sustainability reporting cover corporations interaction with the environment at large including use of natural resources and company impact on earths ecosystems, compliance with environmental regulations, leadership in addressing climates change, energy efficient operations renewable energy, natural resources conservation, pollution programs, strategy towards sustainable development and program to engage stakeholder for environmental improvement. Environmental sustainability reporting has emerged as a vital component of corporate sustainability practices, reflecting a company's efforts to address environmental challenges and minimize its ecological footprint (Kolk, 2010). By providing transparent and comprehensive information on environmental performance, companies can demonstrate their commitment to sustainable development, communicate their progress towards achieving specific goals, and meet the growing expectations of stakeholders, such as investors, customers, and regulators (Dhaliwal et al., 2011). Environmental sustainability reporting allows companies to engage with stakeholders, such as investors, customers, employees, and regulators, fostering trust and accountability (Dhaliwal et al., 2011). Environmental sustainability reporting helps companies identify and address environmental risks and

opportunities, enhancing their ability to adapt to changing regulations, market conditions, and stakeholder expectations (Ioannou & Serafeim, 2012). Environmental sustainability reporting can lead to operational improvements, as companies identify inefficiencies and implement strategies to reduce their environmental impact (Eccles et al., 2012).

Social Sustainability Reporting

GRI (2011) stated that social sustainability reporting is concerned with the impacts on organizations has on the system such as labour practices, human rights and relationship with communities within which it operates. Warren and Thomsen (2012) suggested that social sustainability reporting covers company's commitment and effectiveness within local, national and global community in which it does business. It reflects company citizenship chantable giving and volunteerism. This component covers company's human rights record and treatment of its supply chan. It also covers the environmental and social impacts of company products and services and development of sustainable products, processes and technologies. Social sustainability reporting focuses on a company's efforts to address social issues and promote responsible business practices, including labor rights, human rights, diversity and inclusion, community engagement, and consumer protection (KPMG, 2020). Transparent and comprehensive social sustainability reporting enables companies to demonstrate their commitment to social responsibility, communicate their progress towards achieving specific goals, and meet the growing expectations of stakeholders, such as investors, customers, and regulators (Eccles et al., 2014). Social sustainability reporting allows companies to engage with stakeholders, such as investors, customers, employees, and regulators, fostering trust and accountability (Eccles et al., 2014). Social sustainability reporting helps companies identify and address social risks and opportunities, enhancing their ability to adapt to changing regulations, market conditions, and stakeholder expectations (Ioannou & Serafeim, 2012). Social sustainability reporting can enhance a company's reputation and brand value, differentiating it from competitors and potentially attracting new customers and investors (Brammer & Pavelin, 2006). Companies that demonstrate a commitment to social responsibility through reporting are more likely to attract and retain top talent, as employees increasingly value working for organizations that share their values and contribute positively to society (Turban & Greening, 1997).

Economic Sustainability Reporting

GRI (2011) stated that economic sustainability reporting relates to the organization and impacts on the economic conditions of its stakeholders and the interaction conditions of its stakeholders and the interaction or relationship with the economic system at local national and global level. It does not merely focus on financial condition of organization. Nigeria Stock Exchange (2010) observed that financial performance is fundamental to understanding on organization and its own sustainability. Roxas and Chadee (2012) suggested that economic sustainability refers to the responsibility of a company to generate profit to preserve its capability as an organization. Economic sustainability reporting focuses on a company's efforts to create and maintain long-term economic value, ensure financial stability, and contribute positively to the broader economy. This includes reporting on issues such as financial performance, resource efficiency, supply chain management, and innovation (GRI, 2021). Economic sustainability reporting enables companies to demonstrate their commitment to responsible business practices, communicate their progress towards achieving specific goals, and meet the growing expectations of stakeholders, such as investors, customers, and regulators (Eccles et al., 2012). Economic sustainability reporting focus on financial performance, risk management, value creation, reporting on the organization

investment in research and development, assessment and management of the economic consequences. Financial performance disclosed revenues, profits, costs, investments, and other financial parameters that demonstrate the organization's financial health and capacity for growth. Risk management is the process of identifying and managing financial and non-financial threats to an organization's economic stability, such as market fluctuations, regulatory changes, or natural disasters. Value creation is the process through which a business generates value for its stakeholders, which include shareholders, employees, consumers, and the communities in which it works. Assessment and management of the economic consequences of an organization's supply chain, including responsible sourcing procedures, fair working conditions, and support for local suppliers. Communicating the organization's efforts to generate and retain excellent employment, advocate fair compensation, and invest in employee training and development.

Financial Performance

Financial performance measures a company's financial health and ability to generate value for its owners. Investopedia (2021) reported that financial performance is a company's overall financial health as well as its capacity to generate revenue and profits. It is an important part of corporate management and is critical in determining a company's success, competitiveness, and long-term growth potential (Bodie et al., 2014). Profitability, efficiency, liquidity, solvency, and market value ratios are some of the most important financial performance measurements (Brigham & Ehrhardt, 2013). Profitability ratios assess a firm's ability to earn profits in relation to its revenue, assets, or equity. The gross profit margin, operational profit margin, net profit margin, return on assets, and return on equity are all important profitability ratios (Bodie et al., 2014). Efficiency ratios evaluate a company's capacity to manage assets, liabilities, and equity in order to make profits. Asset turnover ratios, inventory turnover ratios, and accounts receivable turnover ratios are all important efficiency ratios (Brigham & Ehrhardt, 2013). The ability of a corporation to meet its short-term financial obligations is measured by liquidity ratios. The current and quick ratios are the most commonly used liquidity ratios (Bodie et al., 2014). Solvency ratios are used to evaluate a company's capacity to meet its long-term financial obligations. The debt-to-equity ratio, equity ratio, and debt ratio are all important solvency ratios (Brigham & Ehrhardt, 2013). Market value ratios indicate the market's assessment of a company's financial performance and prospects for growth. The price-to-earnings ratio, price-to-sales ratio, and market-to-book ratio are all important market value ratios (Bodie et al., 2014).

Return on Equity

Return on Equity is a popular financial term that assesses a company's capacity to create profits in relation to the equity invested by shareholders. Return on equity is a measure of a company's profitability in relation to its shareholders' equity that is determined by dividing net income by the average shareholders' equity over a certain period. Return on equity is a financial ratio that assesses how well a company's management uses shareholder equity to produce profits. The return on equity of a corporation is an important indicator of its profitability, efficiency, and financial success (Damodaran, 2012). Return on equity is computed by dividing net income by shareholders' equity. It is expressed as a percentage and represents the amount of profit earned for every dollar spent in the company (Brigham & Ehrhardt, 2013). Return on equity is calculated as net income divided by shareholders' equity. Return on equity is an important indicator for companies and investors for various reasons. Return on equity assists in determining a company's profitability by demonstrating how well it uses its equity to generate profits. Performance comparison: Because return on equity

standardizes the measure of profitability across firms, it allows investors to evaluate the financial performance of different companies within the same industry (Bodie et al., 2014). Investors frequently use return on equity as a criterion for buying companies since higher return on equity values generally signal a larger return potential for shareholders (Fama & French, 1992). Return on equity can be used to assess a company's management's ability to utilize shareholders' equity to produce profits (Brigham & Ehrhardt, 2013). A higher return on equity indicates that a company is more efficient in using its equity to generate profits, signaling better financial performance and management.

Return on Asset

Return on Asset is an essential financial indicator used to assess a company's profitability and efficiency in generating income from its assets. Return on asset measures how efficiently a company uses its assets to generate profits and offers information about its financial performance (Brigham & Ehrhardt, 2013). Return on assets is a measure of a company's profitability compared to total assets, computed by dividing net income by average total assets over a certain time. The return on assets of a corporation is computed by dividing its net income by its total assets. It is expressed as a percentage and represents the amount of profit earned for every dollar of assets used in the company (Damodaran, 2012). Return on asset is calculated as net income divided by total assets. Return on asset is an important indicator for companies and investors for various reasons: Return on asset measures a company's profitability by demonstrating how efficiently it uses its assets to generate profits. Return on asset enables businesses and investors to assess a company's operational efficiency in generating income from its assets (Brigham & Ehrhardt, 2013). Because return on Asset standardizes the measure of profitability across firms, it allows investors to analyze the financial performance of different companies within the same industry (Bodie et al., 2014). Return on asset is frequently used by investors to select equities since higher return on asset values generally signal better financial performance and more efficient asset usage (Fama & French, 1992).

Empirical Review

Alhassan et al. (2021) examine how sustainability reporting affects the performance of listed industrial goods companies in Nigeria: For a period of ten years, from 2011 to 2020. This study used time-series and cross-sectional analysis of selected listed industrial goods companies on the Nigerian Stock Exchange. Ex-Post Facto research was used in this study. Data were gathered from secondary sources such as fact books and financial statements of the companies in Nigeria. Using E-View 9.0 statistical software, the data were statistically analyzed using Pearson correlation coefficient and multiple regression analysis. The findings of this study demonstrated that, at a 5% level of significance, sustainability reporting (as measured by economic, environmental, and social performance indices) has a positive significant effect on return on assets, return on equity and earnings per share. The study proposes, among other things, that a standardized Sustainability Index be adopted, since this will assist to put pressure on firms to pay greater attention to their environment and take sustainable development issues more seriously.

Research Methodology

The study adopts expost-facto research design also known as a retrospective or after-the-fact research design, is used when researchers seek to investigate the relationship between variables without manipulating or controlling them. The study adopts expost-facto research design because the secondary data obtained and use for the study has already accord. The

population of the study consists of twelve quoted oil and gas companies on the Nigerian stock exchange. The study adopts purposive sampling techniques to select ten quoted oil and gas companies as sample size. Secondary data were obtained from audited financial reports and sustainability reports of quoted oil and gas companies in Nigeria from 2013-2022. Hypotheses formulated were tested using ordinary least square regression with the aid of Eview 10 econometrics statistical package. The study utilizes a panel data analysis of quoted oil and gas companies in Nigeria over a ten-year period (2013-2022). The independent variable is sustainability reporting, measured environmental sustainability reporting, social sustainability reporting and economic sustainability reporting while the dependent variable is financial performance, captured by return on equity and return on asset. The predictors variable were measures by scoring index based on indicators from global financial reporting initiatives guidelines as adopted by previous researcher such as (Burhan & Rahmanti, (2012); Khaveh et al., (2012); Fuadah et al., (2019); Gunarsih & Ismawati (2018); Kasbun et al., (2019). The number of indicators that are reported and the level of disclosures are used for computation for environmental sustainability reporting, social sustainability reporting, economic sustainability reporting index through quantitative and qualitative measures. The researchers allocate 1 if a company reported any of the indicators in their sustainability report or annual financial report based on global financial reporting initiatives standards or if the company did not report any of the indicators in their sustainability reports or annual financial report the researcher will allocate 0. If the company levels of indicators reported in their sustainability report or financial report is quantitative the researcher will allocate 3, but if the level of indicators reported or disclose in their sustainability report or annual financial report is qualitative in nature the researcher will allocate 2. The dependent variable financial performance is measures by return on equity and return on assets. Return on equity is measures by net income divided by shareholders equity while return on assets is measures by net income divided by total asset. The study adopts ordinary least square regression statistical tools to analyze the formulated hypotheses.

Model Specification

The Functional Relationship of predictor and criterion variable of the study is shown below;

FIP $= f(\text{STR})$ (3.1)

FIP $= \alpha_0 - \alpha_1 STR + \varepsilon_{it}$ (3.2)

ROE $= f(\text{ETR, SSR, ESR})$ (3.3)

$\text{ROE}_{it} = \beta_0 + \beta_1 ETR_{it} + \beta_2 SSR + \beta_3 ESR + \varepsilon_{it}$ (3.4)

ROA $= f(\text{ETR, SSR, ESR})$ (3.5)

$\text{ROA}_{it} = \beta_0 + \beta_1 ETR_{it} + \beta_2 SSR + \beta_3 ESR + \varepsilon_{it}$ (3.6)

Where

STR = Sustainability Reporting
FIP = Financial Performance
ETR = Environmental Sustainability Reporting
SSR = Social Sustainability Reporting
ESR = Economic Sustainability Reporting
ROE = Return on Equity
ROA = Return on Asset
$it_1 - it_4$ = Slope
$\beta_1 - \beta_4$ = Regression Coefficient
α = Regression Constant
ε_{it} = Error Term

Data Analysis and Interpretation of Findings

Table 4.1: Descriptive Statistics of Study Variables

	ETR	SSR	ESR	ROE	ROA
Mean	1.886364	1.810606	1.863636	2.460467	1.504726
Median	2.000000	2.000000	2.000000	1.097705	0.756975
Maximum	3.000000	3.000000	3.000000	8.945270	5.975320
Minimum	0.000000	0.000000	0.000000	0.135340	0.125880
Std. Dev.	0.962247	0.981762	0.978960	2.526653	1.555527
Skewness	0.390938	0.343032	0.410869	0.097398	0.048734
Kurtosis	3.025611	2.982831	2.131439	3.001645	3.019889
Jarque-Bera	7.567366	7.215364	7.863086	3.204318	4.213326
Probability	0.092739	0.087115	0.119613	0.842865	0.722615
Sum	249.0000	239.0000	246.0000	324.7816	198.6238
Sum Sq. Dev.	121.2955	126.2652	125.5455	836.3008	316.9760
Observations	132	132	132	132	132

Source: Eviews 10, 2023

Table 4.1: Demonstrates univariate statistics for all variables adopted for the study using indicators such as mean, median, minimum, maximum, standard deviation, skewness, kurtosis, Jarque-Bera, probability. The study variables are environmental sustainability reporting, social sustainability reporting, economic sustainability reporting, return on equity, and return on asset. The mean environmental sustainability reporting is 1.89, indicating that the average environmental sustainability reporting score across the sample is approximately 1.89. The median environmental sustainability reporting is 2, suggesting that half of the observations have an environmental sustainability reporting score greater than 2, and half have an environmental sustainability reporting score less than 2. The environmental sustainability reporting score ranges from a minimum of 0 to a maximum of 3. The standard deviation is 0.96, indicating that the environmental sustainability reporting scores are moderately dispersed around the mean. The positive skewness (0.39) suggests that the environmental sustainability reporting distribution is slightly skewed to the right, with a longer right tail. The kurtosis (3.03) is close to 3, which indicates a roughly normal distribution of the data. However, the Jarque-Bera test (with a probability of 0.0927) doesn't provide strong evidence to reject the null hypothesis of normality. The mean social sustainability reporting is 1.81, and the median social sustainability reporting is 2. The social sustainability reporting score ranges from a minimum of 0 to a maximum of 3. The standard deviation is 0.98, indicating moderate dispersion. The positive skewness (0.34) suggests a slight right skew in the distribution. Similar to environmental sustainability reporting, the kurtosis (2.98) is close to 3, but the Jarque-Bera test (with a probability of 0.0871) doesn't provide strong evidence to reject the null hypothesis of normality. The mean economic sustainability reporting is 1.86, and the median economic sustainability reporting is 2. The economic sustainability reporting score ranges from a minimum of 0 to a maximum of 3. The standard deviation is 0.98, indicating moderate dispersion. The positive skewness (0.41) suggests a slight right skew in the distribution. The kurtosis (2.13) is lower than 3, indicating a platykurtic distribution (fewer extreme values), and the Jarque-Bera test probability (0.1196) doesn't provide strong evidence to reject the null hypothesis of normality. The mean return on equity is 2.46, while the median return on equity is 1.10, which indicates that the

data is positively skewed. The return on equity ranges from a minimum of 0.14 to a maximum of 8.95. The standard deviation is 2.53, indicating a high dispersion of return on equity values. The positive skewness (0.0974) is close to zero, suggesting that the return on equity distribution is relatively symmetrical. The kurtosis (3.00) is close to 3, which indicates a roughly normal distribution of the data. The Jarque-Bera test (with a probability of 0.8429) also supports the null hypothesis of normality. The mean return on asset is 1.50, and the median return on asset is 0.76, suggesting a positively skewed distribution. The return on asset ranges from a minimum of 0.13 to a maximum of 5.98. The standard deviation is 1 the standard deviation is 1.56, indicating a high dispersion of return on asset values. The positive skewness (0.0487) is close to zero, suggesting that the return on asset distribution is relatively symmetrical. The kurtosis (3.02) is close to 3, which indicates a roughly normal distribution of the data. The Jarque-Bera statistics test result and probability value of all variables is above 0.05 significances level. Thus, the null hypotheses of normal distribution are accepted.

Table 4.2: Eviews Output of Environmental, Social and Economic Sustainability Reporting and Return on Equity

Dependent Variable: ROE
Method: Least Squares
Date: 04/21/23 Time: 14:58
Sample: 2012 2022
Included observations: 132

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.171195	0.739130	1.584559	0.1155
ETR	0.296587	0.226333	1.310401	0.0324
SSR	-0.147313	0.220334	-0.668587	0.0450
ESR	0.534721	0.222158	2.406940	0.0175

R-squared	0.966280	Mean dependent var	2.460467
Adjusted R-squared	0.844395	S.D. dependent var	2.526653
S.E. of regression	2.469930	Akaike info criterion	4.676091
Sum squared resid	780.8712	Schwarz criterion	4.763449
Log likelihood	-304.6220	Hannan-Quinn criter.	4.711590
F-statistic	3.028665	Durbin-Watson stat	2.000879
Prob(F-statistic)	0.031898		

Source: Eviews 10, 2023

Table 4.2: Demonstrates the joint relationship of environmental, social, and economic sustainability reporting on return on equity of quoted oil and Gas Companies in Nigeria. The coefficient of determination R-squared value of (0.966280) indicates that 96.63% of the variation in the return on equity can be explained by environmental, social, and economic sustainability reporting. This suggests a strong relationship between return on equity and the independent variables. Adjusted R-squared value of (0.844395), takes into account the number of independent variables and the sample size, is 84.44%. This is still quite high and suggests that the model is a good fit for the data. The correlation coefficient and probability value of environmental sustainability reporting indicates (coefficient = 0.296587, p-value = 0.0324). The positive coefficient suggests that as environmental sustainability reporting increases, the return on equity also increases. The p-value is less than the significance level of 0.05, indicating that the relationship is statistically significant. Social sustainability reporting

(coefficient = -0.147313, p-value = 0.0450): The negative coefficient implies that as social sustainability reporting increases, the return on equity decreases. The p-value is less than the significance level of 0.05, suggesting that the relationship is statistically significant. Economic sustainability reporting (coefficient = 0.534721, p-value = 0.0175): The positive coefficient indicates that as economic sustainability reporting increases, the return on equity also increases. The p-value is less than the significance level of 0.05, meaning that the relationship is statistically significant. The result suggests that environmental sustainability reporting, social sustainability reporting and economic sustainability reporting jointly has a positive significant relationship on return on equity of quoted oil and gas companies in Nigeria. Thus, sustainability reporting has a positive significant relationship on return on equity of quoted manufacturing companies in Nigeria. The F-statistic tests the overall significance of the model. The F-statistic value is 3.028665, and its associated p-value is 0.031898, which is less than the significance level of 0.05. This indicates that the overall model is statistically significant. The Durbin-Watson statistic tests for the presence of autocorrelation in the residuals. A value close to 2 indicates that there is no autocorrelation in the residuals, which is a desirable property for a good regression model. The Durbin-Watson statistic value is 2.000879, suggesting that there is no autocorrelation in the residuals. The study concludes that environmental, social, and economic sustainability reporting has statistically significant relationship with return on equity of quoted oil and gas companies in Nigeria.

Table 4.3: Eviews Output of Environmental, Social and Economic Sustainability Reporting and Return on Asset

Dependent Variable: ROA
Method: Least Squares
Date: 04/21/23 Time: 15:03
Sample: 2012 2022
Included observations: 132

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.901264	0.467470	1.927962	0.0561
ETR	0.080482	0.143146	0.562233	0.0249
SSR	0.116770	0.139352	0.837949	0.0136
ESR	0.128898	0.140506	0.917383	0.0307

R-squared	0.814586	Mean dependent var	1.504726
Adjusted R-squared	0.708510	S.D. dependent var	1.555527
S.E. of regression	1.562131	Akaike info criterion	3.759814
Sum squared resid	312.3526	Schwarz criterion	3.847172
Log likelihood	-244.1477	Hannan-Quinn criter.	3.795312
F-statistic	4.631546	Durbin-Watson stat	2.007603
Prob(F-statistic)	0.045961		

Source: Eviews 10, 2023

Table 4.3: Explain the joint relationship of environmental, social, and economic sustainability reporting on return on asset of quoted oil and Gas Companies in Nigeria. The coefficient of determination R-squared value of (0.814586) suggests that the independent variables (environmental, social, and economic sustainability reporting) account for 81.46% of the variance in return on assets. This demonstrates a robust relationship between the predictor

variables and the criterion variable. The Adjusted R-squared value is (0.708510) which considered the sample size and the number of independent variables; the adjusted R-squared value is 70.85%, indicating that the model offers a good fit for the data. Environmental sustainability reporting has a coefficient value of (coefficient = 0.080482, & p-value = 0.0249) which suggests that there is positive relationship between environmental sustainability reporting and return on asset of quoted oil and gas companies in Nigeria, as the p-value is below the 0.05 significance level. Social sustainability reporting (coefficient = 0.116770, p-value = 0.0136): With a p-value below the 0.05 significance level, the positive relationship between social sustainability reporting and return on assets is statistically significant. Economic sustainability reporting (coefficient = 0.128898, p-value = 0.0307): The positive association between economic sustainability reporting and return on assets is statistically significant, given that the p-value is below the 0.05 significance level. The F-statistic assesses the overall model's significance. The value of the F-statistic is 4.631546, and the corresponding p-value is 0.045961, which is below the 0.05 significance level, indicating that the overall model is statistically significant. The Durbin-Watson statistic evaluates the presence of autocorrelation in the residuals. A value near 2 suggests that there is no autocorrelation, which is desirable for a reliable regression model. The Durbin-Watson statistic is 2.007603, indicating no autocorrelation in the residuals. The OLS regression analysis shows that the model effectively fits the data, revealing statistically significant relationships between environmental, social, and economic sustainability reporting and return on assets of quoted oil and gas companies in Nigeria.

Table 4.4: Eviews Output of Correlogram Q Test

Date: 04/21/23 Time: 15:21
Sample: 2012 2022
Included observations: 132

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
*|. |	*|. |	1	-0.091	-0.091	1.1193	0.290
.|. |	.|. |	2	0.019	0.011	1.1703	0.557
.|. |	.|. |	3	0.066	0.069	1.7673	0.622
.|* |	.|** |	4	0.210	0.225	7.8392	0.098
*|. |	*|. |	5	-0.159	-0.127	11.367	0.075
.|* |	.|. |	6	0.084	0.048	12.353	0.055
.|. |	.|. |	7	0.063	0.050	12.912	0.074
.|. |	.|. |	8	-0.023	-0.043	12.989	0.112
*|. |	*|. |	9	-0.134	-0.100	15.558	0.077
.|. |	.|. |	10	0.056	-0.017	16.007	0.099
.|. |	.|. |	11	0.055	0.070	16.442	0.125
.|. |	.|. |	12	0.010	0.066	16.457	0.171
.|. |	.|. |	13	-0.002	0.030	16.457	0.225
.|** |	.|** |	14	0.248	0.227	25.682	0.088
.|. |	.|. |	15	-0.023	0.012	25.760	0.091
*|. |	*|. |	16	-0.083	-0.104	26.812	0.064
.|. |	.|. |	17	0.032	-0.042	26.967	0.079
.|** |	.|* |	18	0.256	0.178	37.111	0.095
.|. |	.|* |	19	0.020	0.152	37.173	0.068
.|. |	.|. |	20	-0.053	-0.055	37.617	0.080

.|.	|	.|.	|	21	0.051 -0.039	38.035 0.073
.|.	|	.|.	|	22	0.043 0.000	38.337 0.167
*|.	|	.|.	|	23	-0.083 -0.003	39.465 0.098
.|.	|	*|.	|	24	-0.028 -0.067	39.590 0.084
.|.	|	*|.	|	25	0.040 -0.070	39.855 0.770
.|.	|	.|.	|	26	0.026 0.062	39.969 0.099
*|.	|	.|.	|	27	-0.078 0.014	40.997 0.871
.|.	|	.|.	|	28	0.048 0.002	41.393 0.069
.|.	|	.|.	|	29	0.013 -0.011	41.421 0.163
.|.	|	.|.	|	30	-0.004 0.026	41.423 0.080
.|.	|	.|.	|	31	-0.026 -0.031	41.546 0.098
.|**	|	.|*	|	32	0.237 0.104	51.440 0.366
.|.	|	.|.	|	33	-0.047 -0.047	51.842 0.090
*|.	|	*|.	|	34	-0.117 -0.088	54.331 0.865
.|.	|	.|.	|	35	-0.015 -0.044	54.373 0.089
.|*	|	.|.	|	36	0.099 -0.017	56.168 0.077

Source: Eviews 10, 2023

Table 4.4: Shows the result of the Correlogram Q test. Correlogram Q test is used to check for autocorrelation in the residuals of a regression model. Autocorrelation occurs when the residuals are not independent of each other, which can lead to unreliable parameter estimates and incorrect conclusions about the relationships between variables. The result shows that the probability value of the correlogram Q test are above 0.05 significances level, this suggests that there is no significant autocorrelation in the residuals at the tested lags. The residuals appear to be independent of each other, which is a desirable property of a well-specified regression model. This finding supports the validity of the model and increases confidence in the results obtained from the regression analysis.

Table 4.5: Eviews Output of Breusch-Pagan-Godfrey Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.910821	Prob. F(3,128)	0.4378
Obs*R-squared	2.758956	Prob. Chi-Square(3)	0.4303
Scaled explained SS	3.267586	Prob. Chi-Square(3)	0.3522

Source: Eviews 10, 2023

Table 4.4: Explain the result of the Breusch-Pagan-Godfrey Heteroskedasticity Test. The Breusch-Pagan-Godfrey test is a diagnostic tool used to detect the presence of heteroskedasticity in the residuals of a regression model. Heteroskedasticity occurs when the variance of the residuals is not constant across all observations, which can lead to inefficient parameter estimates and incorrect inferences about the relationships between variables. Given an F-statistic value of 0.910821 and a probability value of 0.4378, as well as a probability chi-squared value of 0.4303, all of which are above the 0.05 significance level, the result suggests that there is no evidence or existence of heteroskedasticity in the model. Thus, the regression model has no heteroskedasticity further the model is homoskedasticity also known as homoscedasticity.

Table 4.6: Eviews Output of Ramsey Reset Test

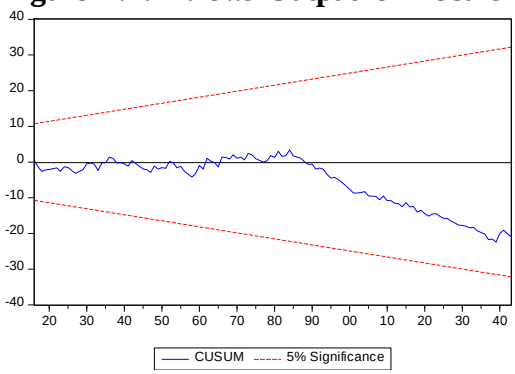
Ramsey RESET Test
Equation: UNTITLED
Specification: ROE C ESR SSR STR
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.583611	127	0.5605
F-statistic	0.340602	(1, 127)	0.5605
Likelihood ratio	0.353537	1	0.5521

Source: Eviews 10, 2023

Table 4.6 Shows the Ramsey RESET (Regression Equation Specification Error Test) Ramsey RESET test is a diagnostic tool used to detect potential issues with the functional form or omitted variable bias in a regression model. The test is performed by adding higher-order terms of the predicted values to the original model and then testing the joint significance of these additional terms. The F-statistic value of 0.340602 and a probability value of 0.5605, both of which are above the 0.05 significance level, the probability value being greater than the 0.05 significance level indicates that there is insufficient evidence to reject the null hypothesis, which assumes that the model has no specification errors (i.e., the functional form is correct, and there are no omitted variables causing bias). The test results suggest that the model is well-specified and does not suffer from functional form issues or omitted variable bias.

Figure 4.1: Eviews Output of Recursive Cusum Test



Source: Eviews 10, 2023

Figure 4.1: Illustrate Recursive Cusum Test (Cumulative Sum of Recursive Residuals). Recursive Cusum test is a diagnostic tool used to detect parameter instability or structural breaks in a time series regression model. This test involves calculating the cumulative sum of recursive residuals over time and comparing it to the 5% critical lines, which represent the boundaries for detecting significant deviations from parameter stability. The result shows that the cumulative sum is within the 5% critical lines, since the cumulative sum is within the 5% critical lines, it suggests that there is no evidence of parameter instability or structural breaks in the regression model. Thus, the coefficients of the model appear to be stable over time. This result supports the validity of the model and increases confidence in the results obtained from the regression analysis.

Table 4.7: Eviews Output of Variance Inflation Factors

Variance Inflation Factors
Date: 04/21/23 Time: 15:39
Sample: 2012 2022
Included observations: 132

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.546313	11.82078	NA
ETR	0.051227	0.962644	1.018522
SSR	0.048547	1.048423	1.004796
ESR	0.049354	1.724633	0.015678

Source: Eviews 10, 2023

Table 4.7 shows the variance inflation factor test result. Variance inflation factor are a measure of multicollinearity in multiple regression analysis. Multicollinearity refers to the presence of high correlations between predictor variables, which can affect the interpretation and reliability of the regression coefficients. Variance inflation factor values help to quantify the severity of multicollinearity. The variance inflation factor test calculates two types of variance inflation factor test values: uncentered variance inflation factor test and centered variance inflation factor test. Uncentered variance inflation factor test values are calculated using the original variables, while centered variance inflation factor test values are calculated after centering the predictor variables (i.e., subtracting the mean of each predictor variable from each observation). A general rule of thumb for interpreting variance inflation factor test values is as follows: variance inflation factor test value of 1: No multicollinearity. Variance inflation factor test values between 1 and 5: Moderate multicollinearity. Variance inflation factor test values above 5 or 10: High multicollinearity (depending on the threshold used). The result shows that both the uncentered variance inflation factor test and centered variance inflation factor test values are below the accepted threshold mention above base on the general rule of thumb. This suggests that there is no multicollinearity among the predictor variables in your regression model.

Conclusion and Recommendations

This study ascertains the relationship between sustainability reporting and financial performance of quoted oil and gas companies in Nigeria. The study concludes that sustainability reporting has a significant relationship on financial performance of quoted oil and gas companies in Nigeria. Environmental sustainability reporting had significant relationship on return on equity and return on asset of quoted oil and gas companies in Nigeria. Social sustainability reporting had significant relationship on return on equity and return on asset of quoted oil and gas companies in Nigeria. Economic sustainability reporting had significant relationship on return on equity and return on asset of quoted oil and gas companies in Nigeria. Company that adopt sustainable practices and transparent reporting enhance their brand reputation, attract investors, reduce operational costs, and improve risk management, ultimately leading to better financial performance. Sustainability reporting creates new opportunities for collaboration and partnerships, as well as provides access to global markets, which enhance financial performance. Sustainability reporting can help mitigate potential risks and liabilities associated with environmental and social issues such as avoiding costly fines, litigation, and reputational damage, which can have long-term negative

consequences on their financial performance. Sustainability reporting has the potential to create value not only for the companies themselves but also for their stakeholders, local communities, and the environment as a whole. Embracing sustainability reporting is essential for these companies to remain viable, responsible, and competitive in today's evolving global landscape. Based on the research findings, the following recommendations were made: The Nigerian government and regulatory bodies, such as the Securities and Exchange Commission and the Nigerian Stock Exchange, should establish mandatory sustainability reporting requirements for all listed oil and gas companies. This policy can encourage companies to adopt more transparent and accountable practices, which may contribute to improved financial performance. Nigerian oil and gas companies should be encouraged to adopt widely recognized international sustainability reporting standards, such as the Global Reporting Initiative, the Task Force on Climate-related Financial Disclosures, and the Sustainability Accounting Standards Board. These standards can help ensure consistency, comparability, and credibility of sustainability reports. Regulatory bodies should play an active role in monitoring and enforcing compliance with sustainability reporting requirements. This could involve regular audits, reviews, and the provision of feedback to companies to improve their reporting practices. The government, industry associations, and educational institutions should collaborate to develop and implement capacity-building programs aimed at improving the skills and knowledge of employees, managers, and board members of oil and gas companies in the area of sustainability reporting. Companies should be encouraged to engage with stakeholders, including local communities, employees, investors, and regulators, in the sustainability reporting process. This can help ensure that reports address the concerns of these stakeholders, ultimately enhancing the financial performance of the companies. Encourage the adoption of integrated reporting, which combines financial and non-financial information, to provide a more comprehensive view of a company's performance. This approach can help companies better understand the relationship between sustainability and financial performance and make more informed decisions. The government and industry associations should consider offering incentives and recognition to companies that demonstrate excellence in sustainability reporting. This could include tax incentives, preferential access to government contracts, or industry awards. Encourage partnerships between oil and gas companies, government agencies, non-governmental organizations, and other stakeholders to share best practices, expertise, and resources to improve sustainability reporting practices and outcomes. Institutional investors, such as pension funds and sovereign wealth funds, should be encouraged to play an active role in promoting sustainability reporting among the companies in which they invest. This can include engaging with company management and boards, as well as incorporating sustainability criteria in their investment decisions. The government, industry associations, and educational institutions should work together to raise public awareness about the importance of sustainability reporting and its potential impact on financial performance, environmental protection, and social welfare.

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