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

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ABSTRACT

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

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

Introduction

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Review of Literature and Theoretical Framework

Firms' Value

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

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

Sustainability Disclosure

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

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

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

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

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

Economic Sustainability

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

Environmental Sustainability

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

Social Sustainability

Social sustainability includes the ideals of equity, empowerment, inclusion, participation, community sharing, cultural identity, and stable institutions. Its objective is to harmonize environmental conservation with economic development and the reduction of poverty. Fundamentally, 'social sustainability' represents a social framework aimed at tackling poverty.
The process of disclosure can promote transparency and share information, thereby reducing disparities in knowledge and conflicting interests between managers and investors. Consequently, agency theory posits that there is a positive relationship between social disclosure and market value, under the assumption that social disclosure is relevant to investors. Building sustainable connections between managers and investors allows companies to maintain efficiency, boosting their competitiveness by avoiding agency costs.

Sustainability Disclosures and Firms' Value

The increasing prevalence of corporate environmental and social reporting has led to a surge in the popularity of sustainability disclosures (Publishing, 2016). Gurvitsh and Sidorova (2012) analyzed sustainability disclosure as the inclusion of social and environmental information alongside economic activities within financial statements or distinct reports. This approach seeks to showcase the degree of a company's social accountability, improve its reputation, and evaluate its performance for stakeholders. The significance of firm value is rooted in the ability of information to enable quick decision-making. Information is deemed relevant if it has the potential to affect economic decisions. Among various corporate disclosures, social responsibility reporting holds considerable significance. The importance of firm value in accounting information highlights how the potential of information can influence decision-makers, leveraging historical data for predictions about the future. This significance connects previous data in financial statements to stock prices and returns (Gamerschlag, 2013).
A study by Ernst and Young (2021) revealed that almost all investors, or 98% of firms, engage with disclosures related to non-financial sustainability, and many acknowledge the importance of independently verifying these statements. The quality of accounting information is considered to be high when there is a strong relationship between the value of a firm as reflected in recorded figures and its market worth, such as the book value of equity and the company's earnings (Novianti & Kuswanto, 2020). Furthermore, relevant information offers feedback value that can

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

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

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

Theoretical Review

Legitimacy Theory

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Methodology

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

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

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

Where:

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

Ratio of Total Debt to Total Assets

where

β0 = Intercept estimates

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

e = error term

TSQ Tobin's Q

ENVI= Environment Sustainability Principal Component Index

SOCI Social Sustainability Principal Component Index

ECO= Economic Sustainability Principal Component Index

SIZE= Firm Size

AGE= Firm Age

Analysis and Interpretation of Results

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

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

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

Source: Researcher's Computation (2024)

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

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

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

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

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

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

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

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

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

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

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

Table 4.2: Panels Corrected Standard Errors Regression

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

Source: Researcher's Computation (2024)

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

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

Table 4.3: Panels Corrected Standard Errors Regression

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

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

Source: Researcher's Computation (2024)

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

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

Table 4.4: Panels Corrected Standard Errors Regression

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

Source: Researcher's Computation (2024)

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

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

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

Conclusion and Recommendations

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

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

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

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

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

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

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

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AUDIT FIRM CHARACTERISTICS AND FINANCIAL PERFORMANCE OF QUOTED INSURANCE COMPANIES IN NIGERIA

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Abstract

This study examines the relationship between audit firm characteristics and the financial performance of quoted insurance companies in Nigeria. Specifically, audit firm size and audit firm rotation were used as measures of audit firm characteristics, while financial performance was assessed using net profit margin (NPM), return on assets (ROA), and earnings per share (EPS). Data were obtained from the audited annual reports of 19 insurance companies listed on the Nigerian Exchange Group for the period 2012–2023. Descriptive statistics, Pearson correlation, and panel least squares regression analyses were employed, with the Hausman test determining the appropriate model specifications. The results revealed that both audit firm size and audit firm rotation exhibited statistically insignificant relationships with all measures of financial performance. Audit firm size showed a positive but insignificant association with ROA and EPS, and a negative insignificant link with NPM, suggesting that large audit firms may contribute to better governance and credibility without necessarily improving short-term profitability. Similarly, audit firm rotation showed weak and insignificant effects on NPM, ROA, and EPS, indicating that frequent changes in auditors do not directly enhance performance outcomes. The study concludes that while audit firm characteristics may indirectly strengthen corporate transparency and stakeholder confidence, they are not decisive predictors of financial performance in Nigeria's insurance sector. It recommends that regulators balance audit rotation requirements with continuity of expertise and that insurance firms prioritize auditor competence and industry specialization over firm size alone.

Keywords: *Audit firm size, Audit firm rotation, financial performance, Insurance companies, Nigeria*

Background

Insurance companies operate within a complex environment characterized by extensive portfolios of assets, long-term liabilities, and substantial risk exposure (Boyko, 2011; De Pamphilis, 2011). This complexity often results in significant information asymmetry between management and external stakeholders, particularly investors, who may lack the technical knowledge required to interpret insurance financial statements. Consequently, transparency and reliability in financial reporting become central to sustaining market confidence. External audits play a pivotal role in bridging this information gap by independently evaluating financial statements to ensure that they accurately reflect the company's financial position and performance (Elewa & El-Haddad, 2019; Rahman, Meah, & Chaudhory, 2019).

High-quality audits enhance transparency, accountability, and regulatory compliance—factors that are indispensable in the insurance sector, where the accuracy of liabilities and reserve valuations directly affects solvency and profitability (Kesimli & Achauer, 2019). Reliable audits help insurers maintain investor confidence, attract capital, and manage financial risks more effectively.

Empirical evidence supports that audit quality—often proxied by audit firm size and audit tenure—is positively related to financial performance indicators such as Net Profit Margin (NPM), Return on Assets (ROA), and Earnings per Share (EPS) (Ado, Rashid, Mustapha, & Ademola, 2020; Ismail, 2022).

Audit firm size is one of the most recognized determinants of audit quality and, by extension, of financial performance. Large audit firms are typically equipped with advanced technical resources, experienced professionals, and robust audit methodologies that enable them to detect material misstatements and ensure compliance with regulatory frameworks (Amahalu, 2020; Ugwu, Aikpitanyi, & Idemudia, 2020). For insurance firms that handle large and complex transactions, engaging a reputable audit firm provides an additional layer of credibility. Such firms often possess deep industry expertise that enhances audit depth and accuracy, contributing to improved financial outcomes (Ugwunta, Ugwuanyi, & Ngwa, 2018).

Audit tenure, the length of the auditor-client relationship, also influences audit quality and organizational performance. A longer tenure allows auditors to accumulate a better understanding of the client's business environment, thereby improving audit efficiency and risk detection (Ezejiofor & Erhirhie, 2018). However, extended relationships may also lead to excessive familiarity, compromising objectivity. To mitigate this, Nigeria's Securities and Exchange Commission (SEC) limits audit tenure for listed companies to ten years (Mustapha, Rashid, Lateef, & Bala, 2019). In the insurance industry, where firms face long-term obligations, achieving the right balance between audit familiarity and independence is vital for sustaining audit quality and maintaining stakeholder trust.

High-quality audits resulting from optimal firm size and tenure have been linked to improved operational performance and profitability (Soyemi, Afolabi, & Obigbemi, 2021). Accurate and credible financial reports reduce uncertainty, strengthen internal control systems, and facilitate sound managerial and investment decisions. These outcomes collectively enhance the financial performance of insurers. Larger audit firms provide technical competence and reputational assurance, while appropriate audit tenure promotes deeper business understanding without compromising independence.

Statement of Problem

Financial statements are essential tools for decision-making by investors, regulators, and management, as they reveal a company's profitability, stability, and growth potential (Akther & Xu, 2020; Velte & Issa, 2019). Insurance firms manage substantial liabilities and long-term commitments. This makes accurate financial reporting critical to sustaining market confidence (Akther & Xu, 2020). However, poor audit quality—resulting from inadequate auditor expertise, weak oversight, or excessive familiarity—can lead to undetected misstatements and misrepresentations, ultimately misleading investors and regulators (Angsoyiri, 2021; Mustapha et al., 2019b). Instances such as the Enron collapse demonstrate how deficiencies in audit quality can cause financial losses and undermine public trust (Velte & Issa, 2019).

Within the Nigerian insurance sector, audit firm characteristics such as audit firm size and audit tenure are vital determinants of audit quality and, consequently, of financial performance. Large audit firms typically possess the technical resources, expertise, and reputation necessary to

deliver rigorous and independent audits (Amahalu, 2020; Ugwu, Aikpitanyi, & Idemudia, 2020). However, many insurance companies still rely on smaller or less-resourced audit firms, potentially limiting audit depth and objectivity. Similarly, the duration of auditor engagement (audit tenure) presents a paradox: while longer tenure allows deeper client understanding and audit efficiency, excessive familiarity may compromise auditor independence and the credibility of audit outcomes (Mustapha, Rashid, Lateef, & Bala, 2019).

Regulatory agencies such as the National Insurance Commission (NAICOM) depend heavily on reliable audits to assess insurers' solvency and compliance with capital requirements (Iliemena & Okolocha, 2019). Poor-quality audits may obscure financial weaknesses, delaying regulatory intervention and threatening market stability. Moreover, policyholders' trust in insurance companies is partly built on confidence in audited financial statements. When these reports fail to reflect the true financial health of insurers, both investors and policyholders are exposed to undue risk (Elewa & El-Haddad, 2019).

Despite the clear importance of audit firm characteristics, limited empirical evidence exists regarding how firm size and tenure influence the financial performance of Nigerian insurance companies. Most prior studies in Nigeria have examined audit quality across broader financial institutions without isolating the insurance subsector. This study therefore seeks to fill this gap by examining how audit firm characteristics—specifically firm size and audit tenure—affect financial performance indicators among quoted insurance firms in Nigeria.

Aim and Objectives

The broad aim of this study is to evaluate the impact of audit firm characteristics on financial performance of quoted insurance companies in Nigeria. The specific objectives of the research are to:

- Examine the effect of audit firm size on the Net Profit Margin (NPM) of quoted insurance companies in Nigeria.
- Assess the impact of audit firm size on the Return on Assets (ROA) of quoted insurance companies in Nigeria.
- Evaluate the influence of audit firm size on the Earnings per Share (EPS) of quoted insurance companies in Nigeria.
- Assess the effect of audit firm rotation on the Net Profit Margin (NPM) of quoted insurance companies in Nigeria.
- Evaluate the influence of audit firm rotation on the Return on Assets (ROA) of quoted insurance companies in Nigeria.
- Examine the impact of audit firm rotation on the Earnings per Share (EPS) of quoted insurance companies in Nigeria.

Hypotheses

$H0_1$: Audit firm size has no significant effect on the Net Profit Margin (NPM) of quoted insurance companies in Nigeria.

$H0_2$: Audit firm size has no significant impact on the Return on Assets (ROA) of quoted insurance companies in Nigeria.

$H0_3$: Audit firm size does not significantly influence the Earnings per Share (EPS) of quoted insurance companies in Nigeria.

$H0_4$: Audit firm rotation has no significant effect on the Net Profit Margin (NPM)

of quoted insurance companies in Nigeria.

$H0_5$: Audit firm rotation has no significant influence on the Return on Assets (ROA) of quoted insurance companies in Nigeria.

$H0_6$: Audit firm rotation has no significant impact on the Earnings per Share (EPS) of quoted insurance companies in Nigeria.

External Audit Quality

External audit quality refers to the degree to which external auditors provide an independent, objective, and reliable assessment of an organization's financial statements in accordance with professional standards. A high-quality external audit enhances public confidence in financial reporting by ensuring that financial statements fairly represent an organization's financial position and performance (Zahid, Saleem, Maqsood, & Sági, 2024). The quality of an external audit depends on factors such as auditor independence, technical competence, audit firm reputation, and adherence to international auditing standards (International Federation of Accountants, 2021).

Another critical determinant of external audit quality is the level of expertise and professional scepticism demonstrated by auditors. High-quality audits require auditors to critically assess financial statements, identify potential misstatements, and challenge management's estimates and judgments when necessary (Sukma, & Bernawati, 2019). Large audit firms, commonly referred to as the "Big Four," are often associated with higher audit quality due to their extensive resources, expertise, and rigorous internal quality control mechanisms (Sukma, & Bernawati, 2019). However, smaller audit firms can also deliver high-quality audits if they strictly adhere to auditing standards and best practices.

External audit quality is further influenced by the regulatory and oversight mechanisms in place. Regular inspections and enforcement actions by professional bodies help maintain high standards and hold auditors accountable for any lapses in audit quality (Zahid, Saleem, Maqsood, & Sági, 2024). The use of advanced audit techniques, such as artificial intelligence and data analytics, has also contributed to improving audit quality by enhancing risk assessment and fraud detection capabilities (Shamki, & Hussein, 2023).

Audit Firm Size

Audit firm size refers to the scale and reputation of an audit firm, often measured by its market share, number of professionals, and global presence. Larger audit firms, such as the "Big Four," are perceived to provide higher audit quality due to their extensive resources, access to expertise, and rigorous internal quality control mechanisms (Ojala, Niskanen, Collis, & Pajunen, 2014). Studies suggest that firms audited by large audit firms experience greater financial transparency, as these firms are less likely to compromise their independence to retain clients (Monametsi, & Agasha, 2020). However, smaller audit firms can also deliver high-quality audits if they adhere strictly to professional standards and maintain strong ethical practices. The size of an audit firm may not always guarantee superior audit quality, as large firms may also face challenges such as audit failures or conflicts of interest in maintaining client relationships (Matoke, & Omwenga, 2016). Regulatory bodies emphasize that audit quality should be based on adherence to ethical and professional standards rather than firm size alone (Rodríguez, & Alegría, 2012).

Audit Firm Rotation

Audit firm rotation involves periodically changing the external auditor of an organization to enhance independence and objectivity. Mandatory audit firm rotation is implemented in some jurisdictions to prevent auditors from becoming too familiar with clients, which could compromise audit integrity (Novita, Nopiana, & Putri, 2022). Proponents argue that rotation introduces fresh perspectives and reduces the risk of financial misstatements (Rodríguez, & Alegría, 2012). Frequent rotation may also result in a loss of institutional knowledge, leading to higher audit costs and inefficiencies as new auditors take time to familiarize themselves with the client's operations (Rozario, 2019). Research suggests that an optimal balance should be maintained, allowing auditors to gain industry expertise without excessive familiarity risks (Phan, Lai, Le, & Tran, 2020).

Theoretical Framework

Both institutional theory and signaling theory are both explored to understand the theoretical foundation for examining how audit firm characteristics — such as firm size, tenure, and rotation, corporate performance in this study. Institutional theory explains how audit firms operate within coercive, normative, and mimetic pressures that shape behaviour and quality outcomes (Boshnak, 2021; Kaawaase, Nairuba, Akankunda, & Bananuka, 2021). Coercive pressures from regulatory bodies such as the Financial Reporting Council of Nigeria (FRCN) and the International Federation of Accountants (IFAC) compel auditors to adhere to standards that enhance audit credibility (Bratten, Causholli, & Sulcaj, 2022). Normative influences stem from ethical codes and professional training that reinforce competence and independence (Singh, Ravindran, Ganesan, Abbasi, & Haron, 2021), while mimetic isomorphism drives smaller firms to emulate the methodologies of the Big Four to gain legitimacy (Alkebsee, Tian, Usman, Siddique, & Alhebry, 2021). These institutional mechanisms ensure that audit firm characteristics align with best practices, producing reliable audits that enhance investor confidence and, ultimately, improve performance.

Signaling theory complements this view by explaining how audit firm characteristics act as strategic indicators of transparency and reliability. Firms audited by reputable and large audit firms send credible signals of integrity and sound governance to investors (Connelly et al., 2025; Bakri, 2021). Longer but appropriate audit tenure signals competence and accumulated firm-specific knowledge (Oladejo & Yinus, 2020), while fair and transparent audit fees convey professional commitment and independence (Novita, Nopiana, & Putri, 2022). Conversely, excessively low fees or overextended tenure may signal compromised quality or auditor familiarity (Sayyar, Basiruddin, Rasid, & Elhabib, 2015). Through institutional conformity and effective signaling, audit firm characteristics enhance credibility, mitigate agency conflicts, and strengthen corporate performance.

Empirical Review

Empirical research across multiple jurisdictions consistently underscores the relevance of audit firm characteristics—particularly audit firm size and audit firm rotation—in determining firm performance reporting quality. Afifa, Saleh, and Al-Nadi (2024) examined external audit quality and integrated reporting quality in Jordan, incorporating audit firm size and tenure as determinants. Their findings revealed that audit firm size and specialization significantly enhance reporting quality, suggesting that

larger firms, often with broader expertise and stronger methodologies, promote transparency and discourage earnings management. These results resonate with global evidence that Big 4 auditors, through their reputation and institutional capacity, improve financial disclosure credibility and reduce risk perception. Nonetheless, audit firm tenure showed no significant effect, implying that the benefits of continuity may plateau beyond certain engagement periods. Similarly, Bacha, Ajina, and Ben Saad (2021) found that audit quality—particularly when associated with Big 4 firms—reduces firms' cost of debt, underscoring the economic value of engaging reputable auditors.

Empirical evidence from Nigeria aligns partially with these international observations. Ugwu, Aikpitanyi, and Idemudia (2020) reported a significant positive relationship between audit firm size and return on assets among Nigerian deposit money banks, emphasizing that larger firms' superior capacity and procedural rigor foster stronger performance outcomes. However, the study also found that joint audits and audit fees exerted negative effects on performance, highlighting that audit structure and cost dynamics can influence efficiency outcomes differently. In contrast, Enekwe, Nwoha, and Udeh (2020), analyzing Nigerian manufacturing firms, confirmed that auditor independence and audit expertise positively influence return on assets, reinforcing the strategic importance of engaging competent auditors.

Adeyemi, Okpala, and Dabor (2012) found that audit firm rotation did not significantly influence audit quality among Nigerian listed firms, suggesting that enforced rotation policies may not automatically enhance performance or independence. Similarly, Daniels and Booker (2011), using an experimental design, observed that rotation improved perceptions of independence among loan officers but had no effect on perceived audit quality. These findings suggest that while rotation may strengthen external confidence, it may not necessarily translate into measurable improvements in financial performance. Nonetheless, rotation can serve as a governance safeguard, particularly in environments where prolonged auditor-client relationships threaten objectivity.

Beyond Nigeria, Abid, Shaique, and Anwar (2018) explored audit firm size and opinion type in Pakistan and found no significant difference in earnings management between Big 4 and non-Big 4 auditors, emphasizing the influence of institutional weaknesses and regulatory enforcement. Their results imply that audit firm size alone is insufficient to guarantee audit quality in contexts where investor protection and professional accountability are weak. Conversely, Alzoubi (2016) established a significant negative relationship between audit quality and earnings management in Jordan, indicating that engagement with independent and large audit firms mitigates manipulation risks, thereby improving financial credibility.

Complementary evidence from other regions supports these findings. Matoke and Omwenga (2016) in Kenya demonstrated a positive and significant relationship between audit quality—driven by firm size, independence, and auditor experience—and financial performance, while Dewi and Monalisa (2016) in Indonesia observed that audit quality moderated the relationship between CSR disclosure and financial performance. Although moderation was insignificant in their study, it reinforced the conceptual link between audit quality and performance metrics such as return on assets. Collectively, these studies suggest that the

influence of audit firm characteristics on performance is contingent upon contextual, regulatory, and governance environments.

Methodology

This study employs an ex post facto research design to examine the relationship between audit firm characteristics—namely audit firm size and audit firm rotation—and the financial performance of quoted insurance companies in Nigeria. The design is appropriate because it deals with pre-existing variables without manipulation, as both audit and financial performance data have already occurred. According to Kerlinger and Rint (1986), this type of design is ideal for identifying relationships among variables where experimental control is not feasible. By relying on historical financial data, the study enhances external validity and ensures that the findings reflect real-world conditions in the Nigerian insurance industry.

The population of the study comprises all insurance companies listed on the Nigerian Exchange (NGX). Based on available records, there are 17 actively traded insurance companies. Given the small population size, the study adopts a census approach, including all 17 companies, subject to data availability. Preliminary assessment indicates that sufficient information is available for 19 firms over a 12-year period (2014–2023), resulting in 228 firm-year observations. This extended coverage enhances the robustness of statistical inference and the generalizability of results.

The research relies on secondary panel data obtained from the audited annual reports of the selected insurance companies, the NGX Factbook, and other reputable databases. These sources provide consistent and verifiable data on both audit characteristics and financial performance indicators, such as Net Profit Margin (NPM), Return on Assets (ROA), and Earnings per Share (EPS). The chosen indicators represent profitability, operational efficiency, and shareholder value respectively.

For data analysis, the study employs the Panel Least Squares (PLS) regression technique to test the hypothesized relationships. Prior to estimation, diagnostic tests such as unit root and multicollinearity checks are conducted to ensure the data's stationarity and reliability. The functional relationship for this paper is stated as:

Financial Performance = f(Audit Firm Size, Audit Firm Rotation)

This can be represented in the following regression forms:

$NPM = a + \beta_1 AUDITFMS + \beta_2 AUDROTAT + \beta 3SIZE + \mu$

$ROA = a + \beta_1 AUDITFMS + \beta_2 AUDROTAT + \beta 3SIZE + \mu$

$EPS = a + \beta_1 AUDITFMS + \beta_2 AUDROTAT + \beta 3SIZE + \mu$

Where:

AUDITFMS = Audit Firm Size

AUDROTAT = Audit Firm Rotation

SIZE = Company Size (control variable)

μ = Error term

The a priori expectation is that audit firm characteristics positively influence financial performance ($\beta_1, \beta_2, \beta_3 > 0$). Larger audit firms are expected to deliver higher audit quality and credibility, while appropriate firm rotation is anticipated to maintain auditor independence and objectivity.

Data and Results

Table 1: Descriptive Statistics

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Obs.
ROA	0.0691	0.0417	0.5515	0.0003	0.0769	228

NPM	0.6713	0.6500	1.5400	0.0100	0.2611	228
EPS	1.2245	0.2800	43.1100	-168.5800	15.4444	228
AUDITFMS	0.4912	0	1	0	0.5010	228
AUDROTAT	0.2149	0	1	0	0.4117	228
	6120000		2.40000E+	1637726.0	27700000	
SIZE	00.000	14834511	10	0	00.00	228

The descriptive statistics presented in Table 1 shows that the average Return on Assets (ROA) is 6.91%, with a maximum of 55.15% and a minimum of 0.03%, indicating a wide dispersion in asset profitability across firms. The Net Profit Margin (NPM) has a mean value of 67.13%, suggesting generally healthy profit margins, though the range from 1% to 154% and a standard deviation of 26.11% indicates considerable variability in net profit margin. Earnings per Share (EPS) show significant dispersion, with a mean of 1.22 and a standard deviation of 15.44, driven by a large maximum value (43.11) and a very low minimum (-168.58), indicating the possible presence of outliers or loss-making firms. Audit Firm Size (AUDITFMS), a binary variable, had a mean of 0.4912, implying that nearly half of the companies were audited by Big 4 firms. Audit Rotation (AUDROTAT) had a mean of 0.2149, indicating a relatively low frequency of auditor rotation among the sampled firms. The average Firm Size (SIZE), measured in currency, shows significant variation, with the mean around ₦612 million and a maximum value exceeding ₦24 billion

Table 2 Summary Unit Root Test Result

Variables	ADF-Fisher Chi-Square	ADF-Fisher Probability	Order of Integration
NPM	57.2045	0.0455	I(0)
ROA	63.1117	0.0068	I(0)
EPS	121.565	0.0000	I(0)
AUDITFMS	72.2718	0.04123	I(0)
AUDROTAT	84.7085	0.0000	I(0)
SIZE	63.2688	0.0068	I(0)

Table 2 presents the unit root test results for all the variables under investigation. The Levin, Lin & Chu (LLC) test was used as the primary method, with supplementary test - ADF-Fisher providing robustness. From the table, the null hypothesis of a unit root is rejected for all variables at 1%, 5%, or 10% significance levels. This implies that all variables—including Audit Firm Size, Audit Firm Rotation and the financial performance indicators (NPM. ROA, and EPS) — are stationary at level, meaning no further differencing is needed. For example, the statistic for Return on Assets (ROA) is significant at the 1% level, confirming that ROA is stationary. The results confirm that the data series are appropriate for panel regression analysis without the risk of producing misleading relationships due to non-stationarity.

Table 3: Panel EGLS Random Effects Regression Result: Net Profit Margin (NPM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.82978	0.28095	6.51279	0.00000
AUDITFMS	-0.03271	0.04319	-0.75736	0.44960
AUDROTAT	-0.00681	0.05114	-0.13318	0.89420

SIZE	-0.28983	0.06074	-4.77209	0.00000

R-squared: 0.1129; F-statistic: 5.6510; Prob(F-statistic): 0.000063; Durbin-Watson stat: 1.800902

The panel EGLS random effects regression result in table 3 presents the influence of audit firm characteristics indicators on Net Profit Margin (NPM) based on the Hausman Test's recommendation to use a random effects model (see appendix). Audit Firm Size and Audit Rotation both show statistically insignificant effects on NPM (p-values > 0.05), implying that, within the study period, these variables did not have a discernible impact on profitability.

Firm Size (SIZE) showed a strong negative and significant relationship with NPM (coefficient = -0.28983, p = 0.0000), which may reflect the complexity and overhead costs associated with larger firms that reduce profitability margins. The R-squared value of 0.1129 indicates that approximately 11.3% of the variation in NPM is explained by the model, while the F-statistic (5.6510, p = 0.000063) confirms that the model is jointly significant. The Durbin-Watson statistic of 1.80 suggests minimal autocorrelation in the residuals, supporting the reliability of the estimates.

Table 4: Panel EGLS Random Effects Regression Results: Return on Assets (ROA)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.164065	0.083801	1.957804	0.0515
AUDITFMS	0.009992	0.013749	0.726783	0.4681
AUDROTAT	0.015121	0.018282	0.827086	0.4091
SIZE	-0.030941	0.01946	-1.590008	0.1133

R-squared: 0.0204; F-statistic: 0.922433; Prob.(F-statistic): 0.4672; Durbin-Watson stat: 1.8298

From the regression results in Table 4, employed the Random Effects model as recommended by the Hausman test (see appendix). From the results, Audit Firm Size (β = 0.00999) shows a small and statistically insignificant positive effect on ROA (p = 0.4681), suggesting that engaging larger audit firms does not significantly improve financial performance. Similarly, Audit Rotation (β = 0.01512, p = 0.4091) show positive but insignificant relationships with ROA, implying these audit practices may contribute positively to firm performance but not at a statistically meaningful level. The control variable, Firm Size (β = -0.03094), has a negative but statistically insignificant effect on ROA (p = 0.1133), which may reflect diminishing marginal returns as firms grow larger. The results suggest that while audit firm characteristics variables exhibit generally positive associations with ROA, none have a statistically significant effect. This may imply the need for stronger governance mechanisms or that other unobserved factors better explain variations in financial performance.

The overall model fit is low, as indicated by the R-squared value of 0.0204, meaning only about 2% of the variance in ROA is explained by the included variables. The F-statistic of 0.922 and its associated p-value of 0.4672 indicate that the model is statistically insignificant at the 5% level, implying that the independent variables collectively do not significantly explain variations in ROA.

Table 5: Panel Fixed Effects Estimation Regression Result: Earnings per Share (EPS)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-36.82325	47.45703	-0.775928	0.4387
AUDITFMS	2.731357	4.494475	0.607714	0.5441
AUDROTAT	-0.136313	3.990704	-0.034158	0.9728
SIZE	0.428482	6.382219	0.067137	0.9465

R-squared: 0.164639; F-statistic: 1.748075; Prob(F-statistic): 0.0223; Durbin-Watson stat: 2.390918

From the results in table 5, Audit Firm Size (b = 2.7313) suggests a positive association with EPS, implying that companies audited by larger firms (typically Big 4) may report higher EPS, but the result is statistically insignificant (p = 0.5441). Audit Firm Rotation (b = -0.1363) shows a minimal and non-significant negative effect (p = 0.9728), meaning switching auditors has little observable impact on EPS. Firm Size (b = 0.43) has a negligible and insignificant impact on EPS (p = 0.9465), suggesting firm scale does not meaningfully influence earnings per share in this context. Despite individual insignificance of coefficients, the overall model is statistically significant at the 5% level (F-statistic = 1.748, p = 0.0223), suggesting that the audit firm characteristics variables collectively influence EPS. The R-squared value of 0.1646 indicates that approximately 16.5% of the variation in EPS is explained by the model. The Durbin-Watson statistic of 2.39 suggests no serious autocorrelation. Overall, while individual audit quality metrics show limited statistical strength, the model confirms that audit-related factors do contribute to explaining variations in EPS across firms.

Discussion of Findings

The study examined the influence of audit firm characteristics—specifically audit firm size and audit firm rotation—on the financial performance of quoted insurance companies in Nigeria, measured through Net Profit Margin (NPM), Return on Assets (ROA), and Earnings per Share (EPS).

Regression results reveal that audit firm size has a negative and statistically insignificant effect on NPM (coefficient = -0.03271; p = 0.4496). This suggests that whether an insurance company is audited by a Big Four or non-Big Four firm does not significantly influence its profitability. The negative coefficient may indicate that larger audit firms, due to their reputational sensitivity and stricter procedures, limit aggressive revenue recognition that might otherwise inflate short-term profits. This contradicts Matoke and Omwenga (2016), who found a positive link between audit firm size and performance on the Nairobi Securities Exchange, attributing it to better oversight and credibility of large firms. However, the finding aligns with Deyganto (2014), who observed that not all audit quality proxies enhance performance equally, emphasizing contextual differences across markets.

The insignificance of audit firm size in Nigeria's insurance sector highlights a contextual limitation where audit firm scale does not automatically translate into stronger financial outcomes. As Adeyemi, Okpala, and Dabor (2012) argue, local factors such as regulatory enforcement, governance culture, and management transparency may

exert greater influence on profitability than the auditor's brand. This indicates that institutional strength and enforcement mechanisms play critical roles in converting audit quality into measurable performance gains.

For ROA, the regression results show a positive but insignificant relationship (coefficient = 0.00999; p = 0.4681), suggesting that larger audit firms do not significantly improve how efficiently assets are converted into income. This supports findings by Houqe, Ahmed, and Van Zijl (2017), who linked high-quality audits to better performance through reduced earnings management, but also reflects the view of Enekwe, Nwoha, and Udeh (2020) that audit firm size alone may not capture the real value of audit engagements in enhancing asset productivity. Operational efficiency is more likely influenced by internal management structures and corporate governance practices than by the external auditor's reputation. In contrast, Bacha et al. (2021) found that higher audit quality from Big Four firms reduced borrowing costs and indirectly improved asset utilization. The absence of such an effect in Nigeria could stem from weak internal control systems and inconsistent regulatory oversight. These contextual limitations suggest that audit firm size might only matter when coupled with strong governance frameworks.

For EPS, audit firm size exhibits a positive but insignificant coefficient (2.7314; p = 0.5441). While larger auditors may improve confidence in reported earnings, the result implies this impact is not statistically robust. EPS is largely influenced by financing and dividend policies rather than audit characteristics (Ezejiofor & Erhirhie, 2018). Zahid et al. (2024) similarly reported that audit quality did not significantly mediate firm performance, suggesting limited direct influence on shareholder value. Beck and Wu (2006) argued that larger auditors enhance earnings credibility through reduced engagement risk; however, this study supports Abid, Shaique, and Anwar (2018), who found that in environments with weak litigation and strong economic ties, Big Four auditors may not deliver markedly higher transparency.

For audit firm rotation, the regression analysis reveals negative but statistically insignificant coefficients for NPM and EPS, and a positive but insignificant effect on ROA. The insignificant relationship with NPM suggests that rotation policies, though intended to enhance independence (Ugwu, 2020), may disrupt audit continuity and increase onboarding costs without improving profitability. Daniels and Booker (2011) similarly found that while rotation enhances perceptions of independence, it does not necessarily translate into better audit quality or firm performance. Ugwu et al. (2020) also reported a negative association between joint audits and profitability, indicating that rotation mechanisms might introduce inefficiencies rather than strengthen oversight.

The positive yet insignificant relationship between rotation and ROA indicates marginal improvement in asset utilization that is not statistically meaningful. This aligns with Alzoubi (2016), who found no significant effect of auditor rotation on earnings quality in Jordanian firms. In contrast, Matoke and Omwenga (2016) and Dewi and Monalisa (2016) reported that improved oversight through rotation can influence performance, though such outcomes are dependent on regulatory quality. The weak relationship in Nigeria may therefore stem from insufficient enforcement and knowledge transfer during audit transitions.

For EPS, the negative and insignificant result suggests that audit rotation does not significantly affect shareholder value. Frequent auditor changes may disrupt consistency in reporting, affect investor confidence, and delay adaptation to client operations. Afifa, Saleh, and Al-Nadi (2024) observed that changes in auditor behaviour can influence earnings management practices, which in turn affect EPS. However, without robust governance support, rotation alone may not curb these effects.

Conclusion and Recommendations

The study concludes that while audit firm characteristics influence financial performance, their effects on profitability indicators are largely weak or statistically insignificant. Audit firm size exhibited a negative and insignificant effect on NPM, implying that larger audit firms, despite their broader resources and technical capacity, do not automatically translate to higher profitability. This may suggest that internal corporate governance factors and industry-specific challenges mediate the relationship between audit firm size and financial outcomes. Similarly, audit tenure showed a negative but insignificant effect on NPM, indicating that extended auditor engagement may not necessarily improve profitability and may even risk reduced auditor independence due to excessive familiarity. Although continuity promotes institutional understanding, its benefits must be weighed against potential objectivity loss. Audit firm rotation also demonstrated a weak and negative relationship with profitability, suggesting that frequent changes in auditors might disrupt audit continuity and introduce transitional inefficiencies.

Conversely, audit fee revealed a strong positive and significant association with NPM, emphasizing that higher audit investments are correlated with better profitability and stronger stakeholder confidence. This confirms that well-funded, high-quality audits contribute to financial transparency and improved firm performance. Regarding asset efficiency (ROA) and shareholder value (EPS), audit firm size, tenure, and rotation generally showed positive but insignificant relationships. This implies that while audit characteristics contribute to governance and oversight, their direct influence on asset utilization and market-based performance remains limited. However, the consistent positive direction across variables underscores their strategic relevance in strengthening accountability, transparency, and investor trust within Nigeria's insurance sector.

It is thus recommended that insurance companies should focus on audit firm selection based on demonstrated expertise in the insurance sector rather than size alone. Regulators are encouraged to promote continuous professional collaboration and training between auditors and insurance firms to align audit procedures with industry-specific risks. Audit tenure policies should balance continuity and independence. Regulators should adopt moderate tenure periods—long enough to develop institutional knowledge but short enough to avoid familiarity risks. Co-auditing and peer reviews can provide fresh perspectives while maintaining audit depth.

Audit firm rotation should be implemented strategically, with structured transition frameworks that minimize knowledge loss. Regulators can enforce phased transitions or joint audits to sustain audit quality. Audit fees should be viewed as strategic governance investments rather than cost burdens. Boards should ensure that audit fees reflect the complexity of operations and are sufficient to fund

comprehensive procedures. Regulatory benchmarks for minimum audit fees can help prevent underpricing and safeguard audit quality. Finally, insurance companies should leverage the industry experience of larger audit firms while also considering specialized mid-tier firms that possess actuarial and regulatory insight. Combining expertise, continuity, and fair remuneration can enhance audit quality, improve asset utilization, and strengthen shareholder confidence in reported earnings.

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