FIRM ATTRIBUTES AND SUSTAINABILITY REPORTING QUALITY OF LISTED OIL AND GAS COMPANIES IN NIGERIA: MODERATING EFFECT OF OWNERSHIP STRUCTURE

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ABSTRACT

The study provides empirical evidence of moderating effect of ownership structure on the relationship between firm attributes and sustainability reporting quality of oil and gas companies in Nigeria. The research adopted ex-post facto design and content analysis, the population of the study was listed oil and gas companies in Nigeria. A sample of 10 companies was purposively selected for a period of five years, resulting in 50 observations. Data were collected from secondary sources, mainly from annual reports as at 31st December 2023. The study applied the Global Reporting Initiative framework establish the sustainability reporting index. The data were analysed using descriptive statistics and robust random regression model performed by STATA 14. The findings revealed that Foreign ownership and concentrated ownership have positive and significant effect on the relationship between firm attributes and sustainability reporting quality. The study also found out that managerial ownership has statistically negative moderating effect on the relationship between firm attributes and sustainability reporting quality. The study recommends that ownership structure and firm attributes with positive outcomes used in this study should be profoundly invested upon and the regulating agencies of government in view of the role they played in ensuring that companies act responsibly towards social, economic and environment by making sustainability reporting mandatory. The older firms were slow in adopting the sustainability reporting concept and therefore there is a need make reporting on sustainability mandatory for all listed oil and gas companies in Nigeria.

KEYWORDS: Ownership Structure, Firm Attributes, Sustainability Reporting Quality, Firm Size, Firm Age.

1.0 Introduction

Sustainability have gained international recognition as a means of addressing current issues while also ensuring that future generations can meet their own needs. As a result, companies are now expected to demonstrate their commitment to these efforts by embracing corporate sustainability reporting, also known as the triple bottom line, which combines environmental, social, and economic factors. Corporate sustainability reporting has become increasingly popular over time, particularly in industrialised nations (KPMG International, 2013).

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The majority of developing nations, on the other hand, are rarely able to provide complete corporate social responsibility data, much less create a more extensive framework for sustainability reporting.

The United Nations Assembly on Climate Change, in partnership with nongovernmental organisations, issued regulations and guidelines for reporting sustainability actions and released the influential report, which served as the impetus for the study. As a result, countries are expected to establish sustainability guidelines, standards, and frameworks by designing, implementing, encouraging, and mandating Environmental, Social, and Governance (ESG) initiatives. Complete and transparent reports have the potential to hold businesses accountable for their environmental degradation and progress towards sustainable development (Babangida, 2023). As people become more aware of sustainability issues, stakeholders, including investors and consumers, are requesting greater transparency from businesses.

The prior research (Grey, 2010: GRI, 2013; Babangida, 2019; Onyinye & Amakor, 2019; Abdullahi & Auwal, 2021; Ibrahim, 2023) primarily focused on discussing the phenomenon of meaning and disclosure, neglecting to look at the factors that influence sustainability implementation and disclosure as well as its financial and economic ramifications. A small number of researches, including Wang, (2017), looked at the connection between company attributes and Taiwanese listed businesses' disclosure of sustainability reporting. Bassey, Effiok, and Etom (2013) looked at the connection between firm Attributes and environmental reporting practices; Uyagu et al. (2017) investigated the impact of firm Attributes on environmental reporting procedures of listed manufacturing firms in Nigeria. Throughout the course of exploration, production, and marketing, oil and gas corporations engage in a number of interactions with local populations. Demands to make investments in the local communities' development have been made of oil and gas firms as a result. Furthermore, in recent years, the World Bank, the government, and non-governmental organisations have all asserted the benefits that sustainability reporting can bring to the fight against poverty and the advancement of local communities. Local communities benefit from the work of socially sustainable organisations. Maintaining citizens' political and economic rights is essential to social sustainability.

Sustainability reporting, which includes economic, social, and environmental aspects, does not, take the place of conventional financial reporting. Quality sustainability reporting conveys organisational strategies and business performance to a wide range of stakeholders by integrating pertinent financial and non-financial data. In Nigeria, managing stakeholder expectations and interacting with local populations are frequent hurdles for oil and gas corporations. Firm attributes, however, can be connected to sustainability reporting and then to ownership structure, which creates the equity user group made up of the owners' claims to the company's assets and may have a direct or indirect impact on how an organisation is run. In the earlier research, the firm's profitability served as a stand-in for firm Attributes. This results in a restriction on both the conclusions and the suggestions. Thus, by examining the moderating effect of ownership structure on the link between firm Attributes and sustainability reporting quality of listed oil and gas companies in Nigeria, this study closes an existing gap in the literature. As a stand-in for firm Attributes, the study looks at firm size, firm age, and firm leverage. The following queries are addressed in the paper: In what ways does ownership structure affect the association between firm size and the quality of sustainability reports among Nigerian oil and gas companies? What effect does ownership structure have on the correlation between firm age and the level of sustainability reporting in Nigerian oil and gas companies? How much does ownership structure affect the quality of sustainability reporting and business leverage? As a result, various

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ownership arrangements may prioritise various factors of sustainability reporting calibre. In order to accomplish the primary goal of the research, the following null hypothesis is developed and examined. The association between firm Attributes and the sustainability reporting quality of Nigerian oil and gas businesses is not significantly moderated by ownership structure. The project, which spans five years from 2019 to 2023, is contingent upon the availability of data. Given that the oil and gas industry is one of the most dynamic and well-regulated in Nigeria, the firms have made the decision to invest in the growth of their local communities. The study's methodology, results and discussion, conclusion, and suggestions are all included in the remaining section.

LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Concept of Sustainability Reporting. The idea of sustainability reporting (SR) is very new. A sustainability report is a document released by a business or organisation that details the social, environmental, and economic effects of its regular operations, according to the Global Reporting Initiative (2011). A sustainability report illustrates the connection between an organization's strategy and its dedication to a sustainable global economy, as well as presenting the organization's values and governance model. In addition to being helpful to stakeholders, sustainability reporting is a methodical way to compile and present the sustainability data required for the management process. In layman's terms, sustainability reporting, also known as triple bottom-line reporting, is a method of assessing and revealing an organization's performance in order to meet social, economic, and environmental parameters. However, when viewed from a broader angle, it encompasses all of the values, issues, and procedures that organisations must take care of in order to reduce the negative effects of their operations and, as a result, improve social, economic, and environmental values. The three lines stand for society, the economy, and the environment. According to research, the term "sustainable" is actually a translation of the term "sustainable development," which means continuity or perpetuity. The Arabic verb "perpetuate" has multiple meanings in the language, such as "slowness in something, requesting permanence and perseverance in it" (Al-Jajjawi & Al-Khafaji, 2020).

The Brundtland report, which was presented at the Rio de Janeiro UN conference in favour of "Agenda 21," brought the idea of sustainable development—a United Nations initiative—to international attention in 1987. Less than five years had passed by when 178 nations ratified the comprehensive action plan known as "Agenda 21" (UN Conference on Environment and Development, 1992). The pursuit of sustainability reporting emerged from societal apprehension regarding the sustainability of the human-economic system, given that the planetary ecosystem's biophysical carrying capacity is greatly endangered by the population's exponential growth rate (American Accounting Association). Corporate social responsibility and sustainability reporting are terms that are sometimes used interchangeably. However, research indicates that while sustainability reporting offers emerging economies limitless opportunities for success, corporate social responsibility is employed by businesses in the developed world to protect their brand. The process of choosing the firm-level social performance variables, measures, and measurement procedures is known as sustainability reporting. It also entails methodically creating information that is helpful for assessing the firm's social performance and disseminating that information to relevant social groups both inside and outside the organisation (Duke & Kankpang, 2013).

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According to Choudhuri and Chakraborty (2009), sustainability reporting (SR) is a framework for reporting that emphasises three important aspects: "the economic, social, and environmental performance" of a firm, in addition to its financial well-being. The Global Reporting Initiative (GRI), a reputable organisation in the sustainability field, defines SR as an involvement in evaluating, disclosing, and being answerable to the stakeholders, both internal and external, for the overall well-being. Sustainability reporting is concerned with measuring, accounting for, and disclosing an organization's economic, environmental, and social performance in order to improve sustainability development and boost the firm's overall performance (Association of Chartered Certified Accountants, ACCA 2005). The most well-known framework for accounting for corporate sustainability is probably the triple bottom line (TBL) concept, which was introduced by Elkington (1998). It states that analysing the social, economic, and environmental issues that are important to stakeholders must be one of the dimensions by which it is measured. Nonetheless, businesses have a great deal of discretion in deciding whether and how to account for the TBL costs and benefits connected to their operations due to the voluntary and unregulated nature of sustainability reporting. A tool for reporting and informing stakeholders from an accounting standpoint, sustainability reporting is sometimes included in annual reports and other independent publications.

2.1.2 Concept of Firm Attributes: Firm Attributes, which impact sustainability implementation and disclosure, include firm size, age, leverage, and sales growth. These factors may have a moderating effect on the decision of oil and gas companies regarding whether or not to engage in sustainability reporting (Uyagu, et al., 2017). After roughly 19 years of exploration, Nigeria found oil at Oloibiri in the Niger Delta in 1956. This finding created the groundwork for the nation's continued existence. Ownership structure may have a major impact on how sustainability reporting is done in Nigerian oil and gas firms. When it comes to the subject of what makes the biggest contribution to the Nigerian economy, the oil and gas industry is very much in the spotlight. Oil and gas firms are more focused on operating in a contemporary manner that is acknowledged as progress that meets the needs of the current generation without jeopardising those of future generations. Oil and gas companies can work towards achieving these goals by incorporating environmental, social, and economic responsibilities into their mission statement. Today, an organization's ability to survive depends on how well it integrates sustainability issues into its business strategy. Doing so will help oil and gas companies reduce waste, emissions, energy use, and conservation. Firm structure, market, and capital structures are intricately linked to form firm Attributes. The most common features of structural firm Attributes are firm size, firm age, and firm leverage. Similarly, market-related variables take account of the industry type, environmental uncertainty, and market environment. The term "firm Attributes" is associated with a variety of terminologies. Its meaning and context differ across the industrial sector. As noted by Mgni and Nayak (2016), practitioners and academics cannot agree on the definition and substance of firm Attributes.

According to Yameen et al. (2019), firm age refers to the age of a company at the time of analysis. In this study, the researcher measured the firm age from the difference between the year the study was conducted and the year the company was established. Maintaining the existence of a business for a long time period is hard because the company must maintain the quality of products and there will always be new unit. Businesses enter the market with their products, therefore in order to stay in business and compete with rivals, they must use cutting-edge items and technology. A company's founding date can be used to calculate its firm age (Paramitha & Rohman, 2020).

A firm's size can be determined by taking two measures: the natural logarithm of its total assets or the natural logarithm of its total sales. In this research study, the natural logarithm of its total assets was used because the total assets are all resources that the company owns as a result of past transactions and it was anticipated that these resources would provide potential future economic benefits for the company. The larger a company is, the more activities it will carry out in its business activities that will get more revenue. The ownership structure of Nigerian oil and gas companies can moderate the relationship between sustainability reporting quality and leverage, which is the debt-to-equity ratio. Since running a business may not always be financially stable, the company needs outside funding to support its operations and ensure its continuity. One way to meet this need is by borrowing money from investors or creditors, such as banks or non-bank financial institutions, or by issuing bonds or shares.

2.1.3 Concept of Ownership Structure is associated with resource endowments among owners that determine their power and ability to manage business organisations. From the perspective of developing countries, firms with foreign ownership are associated with greater technological skills, good management practices, sufficient financial resources, better innovation capability, and higher economies of scale (Mahajan et al. 2018). Higher foreign ownership percentages usually translate into more capital-intensive businesses (Chibber & Majumdar 1999). Foreign-owned companies are able to produce at a higher efficiency than domestically owned companies due to superior production technology and managerial know-how (Ramstetter 1999). Ownership Structure: The owners' claims over the company's assets make up the equity user group, which may have a direct or indirect impact on how an entity is run. The choice of external auditor as well as the nominations of executives and board members for open positions might be influenced by majority shareholding. State-owned businesses with significant profits might report on sustainability more openly. Privately held businesses that are not as successful might report on sustainability with less transparency. Profitable foreign-owned businesses might disclose sustainability data with greater transparency. The most prevalent ownership structure across many large corporations was the focus of this study: managerial, concentrated, and foreign ownership.

2.1.4 Empirical Review

The effects of sustainability accounting which has three dimensions: environmental, economic, and social on the calibre of financial reports of pharmaceutical and chemical companies listed on the ASE were studied by Abedalrazzak, Ghaleb, and Abdel, in 2024. Using simple and complex regression models, the results show that the environmental, economic, and social aspects of sustainability accounting activities influence the financial reports' quality either entirely or in part. The statistical analysis's findings also demonstrate that a rise in the reporting of sustainability Attributes raises the calibre of the financial reports produced by the companies that are the subject of the study. Ahmad, Afnan, Yasmeen, & Abd, (2024), examined the role of applying green innovation in enhancing environmental sustainability in industrial facilities in Palestine. The study has found that the overall degree of applying green innovation as well as the overall degree of environmental sustainability in industrial facilities in Palestine was high. It showed a significant relation between areas of green innovation combined and enhancing environmental sustainability in these facilities. However, there were some differences in the evaluation of sample study individuals in the areas of green innovation and environmental sustainability according to the sector variable. Dincer, Banu, and Caner Dincer

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(2024). the study examined a thorough synthesis of the qualitative SR literature covering sustainability reporting (SR) topics. It aims to shed light on the qualitative approaches employed as well as the theoretical and conceptual underpinnings that have shaped the development of the sustainability area. While institutional theory and stakeholder theory have dominated the chosen literature, there is still much to learn about the investigation of moral legitimacy. Because of the complexity and diversity that come with using qualitative research methodologies, it is important to emphasise that this evaluation only includes qualitative studies.

Ndubuisi, Akoh, Benjamin, Chinedu, Onyeka, and Rhoda, (2024), Within the context of sustainable accounting, the study offers a thorough analysis of how environmental expenses are included into financial reporting. The results demonstrated how environmental accounting has changed significantly over time, moving from a fringe practice to a mainstream element of financial reporting. Contemporary methodologies are distinguished by inventive strategies and technology breakthroughs, signifying a transition towards comprehensive and eco-friendly corporate operations. The research pinpointed several obstacles, including the intricacy of amalgamating ecological expenses, the necessity for uniform reporting structures, and the demand for proficient proficiency. Islam, Uddin, and Hossain, (2024), examine how environmental reporting affects the performance of the Bangladeshi listed firms on the Dhaka Stock Exchange (DSE). The results of the multiple regression analysis indicate that environmental disclosers have a positive and significant impact on market performance as measured by the market performance tool, Tobin's Q (TQ). On the other hand, the findings also suggest that environmental disclosures have little bearing on the financial performance of the firms as measured by return on equity (ROE) and earnings per share (EPS).

Shahd, and Yasir, (2023) looked at the evolution of sustainability accounting standards historically. Since the excessive and misuse of these non-renewable resources harms older generations, the desired goal of sustainability concepts is to provide a balance in all economic, social, and environmental fields. Being aware of these risks does not absolve one of responsibility, however; one must work seriously to find solutions and correct the path towards the best in achieving an environment sustainable economy and its continuous development to contribute to the preservation of our planet and the achievement of social well-being.

The study conducted by Iliemena, Amedu, and Uagbale-Ekatah, (2023) examined sustainability reporting, return on capital employed, and gross profit margin empirically. The results of the regression analysis indicated that social disclosure had a significant positive impact on GPM, but no significant impact of environmental disclosure was observed on ROCE, which could have been caused by other factors outside the purview of the study. The development of new reporting tools will be aided by the need to standardise sustainability information. As demonstrated by the Global Reporting Initiative, many companies began implementing Sustainable Enterprise Resource Planning (S-ERP) to digitalize their processes (Global Reporting Initiative, 2022).

Sustainability performance measurement is within the broad umbrella of social accounting. Different types of activities, such as social, environmental, and economic ones, can be categorised under this domain (Natalia, 2017). That is to say, among other things, corporate social responsibility, corporate governance, and human resource planning produce the broad ideas and disclosure of sustainable performance. The process of determining the firm-level social performance variables, measures, and measurement procedures is known as sustainability reporting. It involves methodically creating

information that is helpful for assessing the firm's social performance and disseminating that information to relevant social groups both inside and outside the organisation (Duke & Kankpang, 2013). A new trend in corporate reporting is sustainability reporting, which combines a company's financial and non-financial performance into a single report. Many businesses currently choose to include social and environmental issues in their strategy plans on a voluntary basis. In a few select nations, including South Africa, Germany, France, and Finland, sustainability reporting may be required by law (Ioannou & Serafeim, 2014). Additionally, it may be voluntary and motivated by initiatives for market differentiation or mild internal and external pressures (Joshi & Li, 2016).

2.1.5 Theoretical Framework

2.5.1 Absolute Ownership Theory. According to the theory, the person who finds the oil on their land becomes the owner by right. It is based on the land law principle *of Quic Quid Plantatur Solo Solo Cedit,* which states that the owner of the land owns everything beneath it. It is also based on the latin maxim *Cujus est solum, ejus est usque ad coelum et ad inferos*, which states that the owner of the land owns everything beneath it, including a well. The theory has been shown to be common law-like, which is why it is no longer applicable in our modern era that upholds equity.

2.5.2 Contingency Theory. The theory could be traced as far back as 1964 and was credited to the work of Australian Psychologist Fred Edward Fielder who in his work linked the effectiveness of a leader to the personality of the leader and the situation in which the leader operates. A firm could as a result of its quest towards creating a good name and achieving social acceptance which will in turn, generate a more competitive advantage and result in the creation of a smooth operating environment aside from winning the interest of investors who are so keen about sustaining the environmental embrace contingency approach to Environmental Disclosure.

2.5.3 The Legitimacy Theory. The theory could be traced to Dowling and Pfeffer (1975) It rests on the concept of “Social contract” with the assumption that social contract exists between corporations and individual member of the society and in order to bridge the legitimacy gap between the firm and the environment in which its operation is carried out, it is pertinent that various disclosure strategy need to be considered.

2.5.4 Stakeholder Theory. This theory states that managers react to pressures put forth by owner-stakeholders because of legitimacy, power, and urgency considerations. Freeman (1984) suggests that the firm stakeholders influence the top managers who are in charge of strategy development and implementation through resource usage and withholding mechanisms. The theory provides rich insights into the factors that motivate oil companies concerning the disclosure of sustainability performance. Preference is given to stakeholders based on the resources they command, the power to enact and impose laws, regulation and influence over the media or consumers (Amran & Haniffa, 2011). Furthermore, Nasiru, et al. (2020) contend that stakeholder theory attempts to address the group of stakeholders deserving and requiring management's attention.

3.0 METHODOLOGY

The study adopted a quantitative research approach. The population of the study consist of all the downstream sector which consist of the listed oil and gas companies on the Nigerian exchange group as at 31st December, 2023. The study adopted the purposeful sampling techniques to select the top ten (10) oil and gas companies in Nigeria and their websites. The selected listed oil and gas companies are:

Addax Petroleum, South Atlantic Petroleum (SAPETRO), Hardy Plc, Total Energies, Nexen Petroleum Nigeria Limited, Nigerian Agip Oil (NAOC), Shell Energy Nigeria, Equinor ASA, Chevron Nigeria Limited (CNL), and Exxon Mobil. However, in order to get complete data for the time period and to collect data from companies of similar operations, this study employs a criterion that data collected covered a period of five (5) years, from 2019 to 2023, bearing in mind the period of compliance with International Financial Reporting Standards (IFRSs) regulations. The study obtained data from secondary sources which were extracted from the annual report and account of selected listed oil and gas companies in Nigeria which had been audited by professionals and regarded to be valid for empirical studies.

The study used robust random effect regression model determine the effect of changes in independent variables on dependent variable. To assess the sustainability reporting quality, this study adopted the Global Reporting Index (GRI) based on the valuation of the sustainability report according to guide G4 because of its universal acceptability and ease of classification of companies, GRI provides guidelines on so called Application Levels, ranging from C to A+ that shows to what extent a company is reporting. C level is the basic entry grade, the company only has to report some aspect and disclose 10 core indicators. A+ level requires the company to disclose on all 50 core indicators; the + indicates that the report is externally verified.

Table 1: Summary of Variable Measurement

Dependent Variable	**Symbol**	**Measurements**
Sustainability Reporting Quality	SRQ	Sustainability index using the Total Global Reporting Initiative score for each company
Independent Variables		
Firm Age	FAGE	Difference between the year the study was conducted and the year the company was established.
Firm Size	FIZE	Natural log of total assets
Firm Leverage	FLEV	The ratio of total liabilities to total assets
Moderating Variables		
Concentrated ownership	COWN	Percentage of shares held by major shareholders to total number of shares
Foreign ownership	FOWN	Percentage of shares held by foreigners to total number of shares
Managerial ownership	MOWN	Percentage of shares held by executive directors

Source: Compiled by the Researcher

Model Specification

Sustainability Reporting Models

Global Reporting Initiative (GRI) is a network-based organization that provides the most extensive sustainability reporting standards available at this moment in time. It is based in Amsterdam, the

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Netherlands and in 2009 almost 1400 reports based on the G4 guidelines were issued (GRI, 2010). However, this study measures sustainability index using the (GRI) thus:

$$GRI=\frac{\sum_i^n X}{N} \quad \ldots\ldots (1)$$

Where GRI = Total Global Reporting Initiative score for each company1 $\leq$ GRI $\leq$5

X = Level of sustainability index for each item of GRI

N = Total number of GRI for each company.

Hence, X is xi, xii, xiii, xiv, xv.

Where:

i. CSR disclosure in dummy (1,0) is measured as "1" for companies that have a section in the Annual Reports for social responsibility or community activities and "0" otherwise,
ii. Employee Disclosure in dummy (1,0) is measured as "1" for companies that have a section in the Annual Reports for human resources, employee training and employee relations and "0" otherwise,
iii. Health and Safety in dummy (1,0) is measured as "1" for companies that have a section in the Annual Reports for Health and Safety and "0" otherwise,
iv. Environmental disclosure in dummy (1,0) is measured as "1" for companies that have a section in the Annual Reports that have information on environmental policies, environmental impact assessment or any related words on environmental protection and "0" otherwise.
v. Sustainability disclosure in dummy (1,0) is measured as "1" for companies that have a sustainability sections in the Annual Reports and "0" otherwise.

Moderating effect of ownership structure on the relationship between firm Attributes and sustainability reporting quality of oil and gas companies in Nigeria.

The research regression models were formulated as follows:

$$SRQ_{it} = \beta o + \beta_1 FAGE_{it} + \beta_2 FIZE_{it} + \beta_3 FLEV_{it} + \beta_4 FOWN_{it} + \beta_5 COWN_{it} + \beta_6 MOWN_{it} + \varepsilon_{it} \ldots\ldots(2)$$

Where:

SRQ = Sustainability Reporting Quality
FAGE = Firm Age
FIZE = Firm Size
FLEV = Firm Leverage
FOWN = Foreign Ownership
COWN = Concentrated Ownership
MOWN = Managerial Ownership
βo = the constant or intercept of the slope of the regression equation.
β1 to β6 = the parameters or coefficient of the model
i = represents the number of firms in the panel data:
t = represents the time period of the panel data
ε = it is the error term

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4. Results and Discussions

This section presents and discussed the descriptive statistics, the regression together with the various test and results of the robust Random effect regression model.

Table 2. Descriptive Statistics

STATS	SRQ	FAGE	FIZE	FLEV	FOWN	COWN	MOWN
Mean	1.43	2.60	2.45	6.18	8.45	6.95	7.69
Median	3.46	5.25	4.13	8.81	2.44	7.93	19.01
Maximum	5.46	9.09	9.43	9.47	9.13	30.9	34.32
Minimum	2.89	7.63	8.21	8.53	5.05	3.33	5.65
Std. Dev.	8.78	8.48	3.28	3.37	1.21	6.76	7.71
Skewness	0.34	0.78	1.33	2.01	1.01	0.32	2.12
Kurtosis	2.13	0.52	1.50	0.42	1.22	3.01	2.13
Observations	50.	50	50	50	50	50	50

Source: STATA 14 Output (2024)

Table 2 revealed the descriptive statistics of the variables used in the study. Sustainability reporting quality (SRQ) has a mean value of 1.43 and a median value of 3.46 while the standard deviation is 8.78. This revealed a medium level of disparities and deviation from the mean value. Firms age (FAGE) has a mean value of 2.60, median value of 5.25 and a standard deviation value of 7.63. This revealed that the variables are not too far from each other. Firms size (FIZE) has a mean value of 2.45, median value of 4.13 and a standard deviation value of 3.28. This revealed that the sizes of assets of the firms under this study are moderately comparable. Firm leverage (FLEV) revealed a mean value of 6.18 and median value of 8.81 while the standard deviation value is 3.37. Foreign ownership (FOWN) has a mean value of 8.45 and a median value of 2.44 while the standard deviation value has a value of 1.21. Concentrated ownership (COWN) has a mean value of 6.95 and median value of 7.93 with a standard deviation of 6.76. Similarly, Managerial ownership (MOWN) has a mean value of 7.69 and median value of 19.01 with a standard deviation value of 7.71. Similarly, firm growth has a mean value of 0.13 and a median value of 0.07 with a standard deviation value of 0.26. The ownership structure significantly influenced the relationship of the study variables. The rule is that a skewness value = 0 (normal) >0 (positive skewness) and <0 (negative skewness). The results above show that the probability skewness value and probability kurtosis of the study variables are greater than 0 which means they are normal that is positively Skewness and Kurtosis.

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Table 3. Correlation Matrix (Pearson) of the Study variables

	SRQ	FAGE	FIZE	FLEV	FOWN	COWN	MOWN
SRQ	1.0000						
FAGE	-0.1655	1.0000					
FIZE	0.4875	0.3381	1.0000				
FLEV	0.7963	0.3340	0.8771	1.0000			
FOWN	0.1455	0.0353	0.3837	0.2866	1.0000		
COWN	-0.0330	0.0070	0.2975	0.1295	0.8453	1.0000	
MOWN	-0.4190	0.3845	0.0835	-0.1079	-0.0584	0.2487	1.0000

Source: STATA 14 Output (2024)

Table 3 shows the correlation matrix of the variables used in this study. Sustainability reporting quality has a positive relationship with firm size, firm leverage, and foreign ownership, but negative relationship with firm age, concentrated ownership and managerial ownership. Firm age has a positive relationship with firm size, firm leverage, foreign ownership, concentrated ownership and managerial ownership but negative relationship with the sustainability reporting quality. Firm size has positive relationship with all the study variables. Firm leverage has positive relationship with sustainability reporting quality, firm age, firm size, foreign ownership, and concentrated ownership but negative relationship with the managerial ownership. Foreign ownership has a positive relationship with sustainability reporting quality, firm age, firm size, firm leverage, and concentrated ownership but negative relationship with the managerial ownership. Concentrated ownership has a positive relationship with firm age, firm size, firm leverage, foreign ownership, and managerial ownership but negative relationship with the sustainability reporting quality. Managerial ownership has a positive relationship with firm age, firm size, and managerial ownership but negative relationship with firm leverage, foreign ownership, and the sustainability reporting quality.

Table 4. Variances Inflation Factor Test

Variables	VIF
SRQ	2.11110
FAGE	3.90756
FIZE	2.51780
FLEV	5.12972
FOWN	2.12793
COWN	5.14789
MOWN	2.16702

Source: STATA 14 Output (2024)

The amount of variation that has been inflated in a regressor's coefficient estimate due to collinearity with other regressors is explained by the variance inflation factor (VIF). As can be seen, VIF values more than 10 are often regarded as concerning; hence, no variable exhibited any significant signs of multicollinearity.

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Table 5. Regression Result for Model

Variables	Coefficients	Robust Std Error	T-test	P > |t|
Constant	56.2762	47.0390	1.196	0.241
FAGE	-0.1704	0.0903	-1.887	0.069
FIZE	0.2673	0.1802	1.483	0.149
FLEV	0.2031	0.8820	0.230	0.029
FOWN	0.8874	0.4991	1.778	0.086
COWN	0.7514	0.6521	1.152	0.075
MOWN	5.5799	2.9202	1.911	0.066
R-Squared		0.3371		
F-Value		4.93		
P-Value		0.0022		

Source: STATA 14 Output, (2024). Statistical significance at 0.05 (5%) and 0.1 (10%) levels

Table 5 revealed that the cumulative R^2 (0.3371), which is the multiple coefficient of determination gives the proportion of the total variation in the dependent variable explained by the independent variables jointly. It indicates that the model has good explanatory power signifies about 34% of the total variation on Sustainability reporting quality of selected oil and gas companies in Nigeria. This test is necessary considering that, there is trade-off between the efficiency of the random effects and the consistence of the fixed approach. Similarly, the result of F-statistic (4.93) and T-test shows that, the model is well fitted and components of Ownership structure (FOWN, COWN and MOWN), are found to be positively and significantly related at 5% level of significance as confirmed by the P-value (0.0022). But, Foreign ownership is the major factor affecting the sustainability reporting quality with highest positive coefficient of 0.8874, which indicate a significant effect of ownership structure on sustainability reporting quality at 5% level of significance with 95 percent confident level therefore, remains important for stakeholders. The regression result shows the firm age with negative coefficient of -0.1704, which indicates negative and insignificant relationship with sustainability reporting quality at 5% level of significance but still remains important for stockholders and stakeholders. Firm size coefficient of 0.2673, indicates positive and significant relationship between firm attributes and sustainability reporting quality at 5% level of significance remains important for stockholders and stakeholders. This means that as the moderating effect of ownership structure and firm attributes are continuously increase the sustainability reporting quality of the selected oil and gas companies in Nigeria. It seems that some oil and gas companies have still not realized the importance and need of sustainability reporting quality disclosure. Moreover, they have established themselves over time voluntary disclosing sustainability reporting quality. But to survive in a competitive era, investment in oil and gas company's sustainability reporting quality is necessary.

Furthermore, ownership structure moderates the relationship between firm attributes and sustainability reporting quality of the selected oil and gas companies in Nigeria. Firm attributes are seen to have a positive and significant effect on sustainability reporting quality. It is generally agreed that large companies have greater social obligation. Large companies are assumed to face more public exposure and often they would face more legitimate issues than smaller oil and gas companies. The study's conclusions conflict with those of Lucia and Panggabean (2018), who found no evidence of a significant association between corporate governa a firm's attributes and the disclosure of sustainability

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reports. Although the study supports the conclusions of Iliemena, Amedu, & Uagbale-Ekatah, (2023), who discovered a substantial and positive relationship between leverage and the degree of environmental reporting practices, Andreas, Desmiyawati and Wardi (2016) for Indonesian firms, Obeiteh, Ridzwana and Zaidi (2017) The analysis of coefficients reveals that on the overall, only firm size is seen as the only variable to having a positive and significant impact on sustainability reporting.

Conclusion

The study rejected the null hypothesis and accepted an alternate hypothesis implied that ownership structure (concentrated, foreign and managerial ownership) had a moderating effect on the relationship between firm attributes and sustainability reporting quality of listed oil and gas companies in Nigeria. This study analysed the moderating effect of ownership structure on the relationship between frim Attributes and sustainability reporting quality of selected oil and gas companies in Nigeria. The study selected ten top oil and gas companies operating in Nigeria from 2019 to 2023. The result revealed that firm size and firm leverage have positive significant effect on sustainability reporting quality. The findings further revealed that ownership structure has positive effect on sustainability reporting quality. Firm age has also been argued to have a negative influence on the sustainability reporting quality while concentrated ownership has positive insignificant effect on sustainability reporting quality. Conclusively, firm size and foreign ownership has positive influence on sustainability reporting quality. As firm size increases the level of sustainability reporting quality also increases, this should be encouraged among firms. This study also revealed that when there is good ownership structure the sustainability reporting quality tends to be high. This indicate that oil and gas companies with diluted ownership structure and highly geared tends to comply more with sustainability reporting quality. The study recommends the need for improved sustainability disclosures for companies in Nigeria.

Policy Implications: The study is applicable to various stakeholders interested in sustainability reporting, including policymakers, non-governmental organizations, management teams, green investors and lenders, academicians, researchers, and practitioners. This study would be pertinent for global and international accounting bodies in shaping their perspectives on sustainability reporting quality. The study is limited in scope as it relies on selected oil and gas company, draws findings based on few indicators of ownership structure and firm Attributes on sustainability reporting quality. As a result, there is no real evidence to support and generalised the research conclusions.

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