

Effect of Firm Attributes on Sustainability Disclosure in Nigeria

Abdulrazak Mohammed¹ & Lucky O. Onmonya²

^{1,2} Department of Accounting, Nile University of Nigeria

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Abstract

Company stakeholders are now demand for the inclusion of non-financial information as part of their annual reports, sustainability disclosure enhances stakeholders' knowledge on how environmental, social and economic impacts are taken into account thus, this study examines firm's attributes and sustainability disclosure of listed non-financial companies in Nigeria. The ex-po facto research design was adopted with a population of all listed manufacturing companies in Nigeria. seventy (70) companies were sample, for the period of 2012-2023 financial years. Secondary data from annual report of listed non-financial companies was collected and Panel regression estimation was used for the analysis with the aid of E-views 13 statistical package. The finding revealed that liquidity and asset tangibility has insignificant effect on sustainability disclosure of listed non-financial companies in Nigeria, while firm age has positive and significant effect on sustainability disclosure of listed non-financial companies in Nigeria. The study concludes that firm attributes have an insignificant effect on sustainability disclosure of listed non-financial companies in Nigeria. The study therefore, recommends that in order to have the funds to report their sustainability performance and make investments in sustainability programs, Nigerian listed non-financial companies should endeavor to maintain a healthy liquidity position

Keywords: Firm Attribute, Liquidity, Firm age, Asset Tangibility, Sustainability disclosure, ESG Disclosure.

1. INTRODUCTION

Corporate business organization typically prioritizes shareholder wealth and profit over the welfare of individuals and the environment (Tiamiyu *et al.*, 2021). This arises from the apparent prioritization of profit maximization over sustainability, as well as the impact of a firm's operational actions on the economy, environment, and society (EES). Non-financial activities affecting the host community and society are frequently neglected in favor of promoting enterprises' financial performance (Wang, 2017). Financial information is perceived as incomplete and diminishes in trustworthiness when sustainability performance and information disclosure are overlooked (Tiamiyu *et al.*, 2021). Elkington (2013) emphasized that business success should incorporate a company's sustainability performance with its financial reporting metrics. The objective of sustainability reporting is to attain economic and sustainable development by balancing financial and non-financial performance (Elaigwu *et al.*, 2020). In order to achieve sustainable development, emerging economies cannot afford to disregard sustainability disclosure, which has become a global phenomenon in corporate practices. This is attributable to sustainability challenges threatening the planet and the growing concerns regarding human survival in many emerging economies.

A variety of stakeholders have raised worry about the growing dangers to global sustainability, which are represented in the Sustainable Development Goals of the United Nations. These

stakeholders desire to see more specific business information beyond financial reporting (Abdulsalam & Babangida, 2020). In addition to a plethora of other problems that are hazardous to survival, these sustainability concerns include biodiversity loss, pollution, desertification, ozone layer depletion, poverty, inequality, and hunger (AbdulKareem *et al.*, 2021). Since the quality of these disclosures is vital to sustainable development, organizations' active sustainability performance disclosure of the aforementioned sustainability issues is insufficient. In an effort to satisfy the demands and expectations of varied stakeholders regarding the managements and handling of other issues relevant to the economic, social, and environmental concerns, sustainability reporting is a prevalent business practice. Moreover, Hong, *et al.*, (2014) observed that to establish a sustainable reputation by adopting standard business ethical practices, sustainability is perceived as the disclosure of substantial information pertaining to a corporation's social, economic, and environmental issues.

In analyzing environmental social and governance disclosure, Belo (2022) stressed the significance of corporate firm attributes. These attributes hint to characteristics specific to a firm, which play significant roles in creating its financial decisions and operational standards. Therefore, a company's qualities can impact its decision to provide non-financial information, including environmental disclosures. Many experts consider that stakeholders should assess the extent to which corporate attribute impact a company's choice of disclosure method and identify such influential elements Firm attributes are aspects that affect the firm's decision both internally and externally (Belo, 2022). Therefore, Company attribute are unique variables that contribute towards the changes on firm value. Company attributes are split into firm performance characteristics and firm structural aspects. The company performance characteristic encompasses firm growth and profitability, whereas firm structural characteristics include firm size, firm profitability, ownership structure and gender diversity or managerial efficiency (Belo, 2022). Firm attributes can be viewed as the numerous sorts of information presented in the financial statement of business entities that serve as the predictors of the firm's quality of accounting information and performance. Sustainability disclosure therefore brings about investors' confidence and competitive edge. The listed non-financial companies in Nigeria play a crucial part in the economy as they contribute to the GDP of the nation at large. This is because the listed non-financial companies are part of protected and restoration system of an economy and successful operation of the sector can set impetus for other sectors and development of an economy (Abate, 2022). Indeed, a well-developed and evolved listed non-financial business is crucial to situations for economic progress as it creates long term cash for long term investment for the country. However, due to challenges in internal and external environment, most organizations are unable to realize their objectives. In other words, performance is a product of the ability of a company to gather and manage its resources in various different ways so as to establish competitive advantages. The listed manufacturing organizations are challenged with significant decision making about the company features associated to their sustainability disclosure. The causes of ideal company features and their influence on businesses' activities still remain unexplained, offering enormous opportunity for further research.

Despite the increasing awareness and the necessity for corporations in Nigeria with regards to the sustainability disclosure level, not much is known regarding corporate entities in Nigeria. This subsequently does not give the correct and fair assessment of the company's financial performance as its leaves out the sustainability disclosure components of listed non-financial businesses (Joseph *et al.*, 2021). Most of the listed non-financial enterprises in Nigeria failed to disclose their sustainability reporting as a component of financial statements (Modozie & Amahalu, 2022).

Sustainability disclosure is a key reporting approach for making listed companies to have competitive advantage. The companies that carefully account for ESG disclosure in the financial statement are more competitive than other companies that do not account for their sustainability. Studies such as those of Nwobu (2015), Oyewo and Badejo (2014), Onyali et al., (2015) that have been done in Nigeria suggested a mixed finding on firm attributes and sustainability disclosure. also, most of these studies have not looked at effect of firm's attributes on sustainability disclosures of all listed non-financial companies in Nigeria and most of these previous studies focuses on financial institutions and consumer goods firms in Nigeria and also the use of primary data resulting to institutional and methodological gaps in literature. Similarly, the empirical data displays different outcomes and the periods considered in these investigations were (5-7yrs) resulting to knowledge gap in literature. To make this study timely and relevant to today's world, this present study covers a period of 12years from 2012-2023. The foregoing thus necessitated the need for an empirical study to examine the effect of firm's attributes on sustainability disclosure of listed non-financial companies in Nigeria from 2012 to 2023. The main objective of the study is to examine firm attributes and sustainability disclosure of listed non-financial companies in Nigeria. The underlining hypotheses that guide this study is stated below:

- i. Liquidity has no significant effect on Sustainability disclosure of listed non-financial companies in Nigeria.
- ii. Firm age has no significant effect on Sustainability disclosure of listed non-financial companies in Nigeria.
- iii. Asset tangibility has no significant effect on Sustainability disclosure of listed non-financial companies in Nigeria.

2. LITERATURE REVIEW

Conceptual Review

This section reviews existing literature and related views of notable authorities on firm attributes and market value.

Firm Attribute

Firm attributes can be described as the various types of information provided in the financial statement of business entities that serve as the predictors of the firms' quality of accounting information and performance. Firm attributes may also be defined as the behavioral patterns of company's operation which can assist them to fulfill their objectives throughout the length of their operations (Amahalu & Ezechukwu, 2017). Firm attributes relate to the numerous accounting information provided by firms in their financial statements for a certain accounting period which might send a message to various stakeholders of firms about their performance. Company's features differ from one corporate entity to another. The company's characteristics can be identified based on the relevant information presented in its financial statements for a particular accounting period (Bunea & Dinu, 2020).

Firm Liquidity

Liquidity refers to the efficiency or ease with which an asset or security can be converted into ready cash without affecting its market price. The most liquid asset of all is cash itself. Liquidity is a measure companies uses to examine their ability to cover short-term financial obligations. It's a measure of business's ability to convert assets or anything a company owns with financial value

into cash. Liquid assets can be quickly and easily changed into currency. Liquidity describes the degree to which an asset can be quickly bought or sold in the market at a price reflecting its intrinsic value (Amahalu & Ezechukwu, 2017). Cash is universally considered the most liquid asset because it can most quickly and easily be converted into other assets. Tangible assets, such as real estate, fine art, and collectibles, are all relatively illiquid.

Other financial assets, ranging from equities to partnership units, fall at various places on the liquidity spectrum. Liquidity is the degree to which a security can be quickly purchased or sold in the market at a price reflecting its current value. Liquidity refers to the ease with which a security or an asset can be converted into cash at market price. It is vital to factor in liquidity while planning your investments to ensure that your current needs do not eat into your long-term investment goals (Scott, 2021).

Firm Age

Firm age refers to the number of years a company has been in existence since its incorporation. It serves as an important firm-specific characteristic in corporate governance and financial performance studies, as it reflects the firm's experience, stability, and ability to navigate market challenges (Ekwueme & Sunday, 2024). Older firms are generally considered more established, with a proven track record of performance and a deeper understanding of industry dynamics. In contrast, younger firms may be more agile and innovative but are often exposed to higher risks due to limited operational experience (Farouk & Ahmed, 2023).

The firm age can be defined as the duration of existence of the firm. Specifically, referring to its date of creation as a legal body. According to Shumway (2017) a more acceptable definition of firm age is the total number of years since its listing, which is believed to characterize the firm's existence. One can estimate firm age as the time between the original creation of a firm and the present moment (in years). One can measure firm age as the duration between it becoming public and the present moment (also in years). We choose to focus on the second measure of firm age since.

Asset Tangibility

Asset tangibility refers to the ratio of a company's tangible assets to its total non-current assets. Tangibility refers to the degree of funding through non-current assets. The value of fixed assets serves as a proxy for a firm's tangibility. Companies deploy non-current assets in production to earn revenue, and as such, these assets are targeted for long-term retention within the organization rather than for sale to customers (Erika 2019). These assets are designated as property, plant, and equipment (PPE) on the statement of financial position. Included are assets such as production machines, trucks, facilities, real estate, office furnishings, equipment, and buildings, which may vary according to the organization's nature. It has been shown that asset tangibility greatly influences an organization's capacity to seek external capital for investment, since it boosts the balance sheet and validates the viability of the going concern principle in accounting (Nangih, et al., 2023). The rationale for this is that asset tangibility is a critical aspect determining how counterparties and external financiers perceive a firm's value, particularly regarding the transferable assets in the case of the firm's default on its obligations.

Sustainability disclosure

Sustainability disclosure is a tale disseminated by a company about the environmental, economic and societal impacts of its daily activities (Uwuigbe et al. 2018). Sustainability disclosures relate to the statements made by businesses in their financial reports describing the policies of the organization, the commitment and the implementation of sustainability activities. The disclosure of sustainability practices can be seen as a tool for achieving sustainable development but also as a result of society pressures for greater accountability and corporate transparency (Minguel 2017). The Global Reporting Initiative (GRI), the leading organisation of sustainability reporting guidance and standards, has described sustainability reporting as "a report published by a company on the economic, environmental and social impacts of its day-to-day operations." Stakeholders are keen to know how the firm's strategy and performances are sustainable in different dimensions, including economic, environmental, and social elements, as well as the potential to produce corporate value, via the sustainability reports. Environmental, social, and economic performance disclosure in annual reports or supplemental reports should represent the company's degree of accountability, responsibility, and openness to various stakeholder (Indriawati et al. 2021).

Empirical Review

Idris *et al.*, (2024) examined the moderating impact of board commitment on board attributes and sustainability reporting in listed Nigerian firms from 2013 to 2022. Utilizing a correlational research design and employing a stratified sampling technique, the study examines data extracted from annual audited financial statements of listed firms via the Nigerian Exchange Group (NGX) website. Multiple regression analysis using STATA 13 reveals that board size, board independence, and board commitment significantly and positively influence sustainability reporting, while board gender has a negative and statistically insignificant effect. Considering the moderating variable, it is discovered that board size and independence exert a significant negative influence on sustainability reporting. Conversely, board gender demonstrates a positive but statistically insignificant impact. The study recommends a prudent reduction in the number of directors to enhance coordination and communication efficiency, thereby fostering a cohesive decision-making process and improving sustainability reporting among listed firms in Nigeria.

Ogunmodede, *et al.*, (2024) investigated firm attributes influence sustainability disclosure, focusing on a comparative analysis within the less environmentally sensitive sector in Nigeria. Employing a longitudinal and ex-post facto research design, the study targets a population of 150 listed firms in Nigeria, selecting a sample of 20 firms from both financial and non-financial sectors through judgmental sampling. Data spanning from 2012 to 2021 were gathered from the annual reports and accounts of the chosen firms, along with information from the Nigeria Exchange Group (NGX) fact book. Hypotheses were tested using panel regression and t-test techniques. The primary findings reveal a significant difference in the influence of firm size on sustainability disclosure in more environmentally sensitive industries ($P = 0.0002$). The study recommends that regulators prioritize environmental and social concerns to encourage sustainable practices, including enhanced disclosure on environmental, social, and governance fronts.

Nangih, *et al.*, (2023) investigated the effect of assets tangibility on market performance of listed firms in Nigeria. The population of the study was Consumer and Industrial goods sectors. Ex post facto method was employed as the study design; and was anchored on the Resource based theory. It proxies assets tangibility (the independent variable) using tangible and intangible non-current assets ratios; while market-based performance (the dependent variable) was measured using

earnings per share and market price per share. The study purposively selected 13 listed consumer and industrial goods sector firms quoted on the floor of the Nigeria Exchange Group, which were used as the study sample. The data collected were for the period of 2013 to 2022 and were analyzed using descriptive statistics, correlation and regression techniques. Findings showed that assets tangibility was significant in predicting market performance of firms at 5% significant level. Specifically, the results showed that tangible non-current assets had negative and insignificant effect on market performance indicators of the sampled firms; while intangible non-current assets had positive and significant effect on performance. Accordingly, the study recommended that entities should invest minimally in tangible non-current assets since it had insignificant effect on both earnings per share and their market price per share; but should rather invest more in intangible resources in order to grow their market performance indicators.

Salawu (2022) examined firm attributes and commitment to environmental disclosure by conglomerate firms in Nigeria to determine how they induce voluntary disclosure on environmental commitments of six (6) conglomerate companies listed on the Nigerian Exchange for a study period of nine (9) years (2012 – 2020). Environmental disclosure was measured on scores of disclosures or otherwise of eight (8) environmental protection operational measures. The result shows that Board size had no significant influence on firm's commitment to environmental disclosure. The study recommends commitment of companies to appropriate board size and composition. The sample size used in this study is too small, six companies cannot be used to generalized for all the listed conglomerate companies. This present study employed a robust sample size to make appropriate generalization.

Okolie and Uwejeyan, (2022) investigate the influence of corporate board attributes on the financial performance of conglomerates in Nigeria. Board Size, Board Independence, Board Committees, Board Meetings, and Board Shareholdings served as indicators of board characteristics, while financial performance was measured by Return on Assets (ROA). As a consequence of the 10-year study period from 2011 to 2020, a sample of five quoted conglomerates was selected. Secondary data were obtained from the annual reports of the selected conglomerates using an ex-post facto research design. The regression method employed was panel data regression. The findings demonstrate that the size, independence, and stock holdings of the board and audit committee had a considerable effect on the financial performance of conglomerates in Nigeria. However, board meetings did not show any significant influence on the financial performance of Conglomerates in Nigeria. The study recommends reasonable synergy between board members and owners to maintain a reasonable board size, accountability, transparency, and teamwork in order to sustain board independence as an instrument or influence on the financial performance of conglomerates in Nigeria. At the same time and reduce the frequency of holding board meetings in order to minimize its adverse effects on the financial performance of conglomerates in Nigeria.

Adekanmi, (2022). Examined the effect of firm's attributes on sustainability reporting of non-financial firms listed on the Nigerian Stock Exchange (NSE) between 2006-2020. The study population comprised of (113) listed non-financial firms. The sample size was made up of (76) listed non-financial firms out of the total population. Taro Yamane technique was employed in the determination of the sample size. Secondary data was sourced from the audited financial reports of sample firms. Panel data least square multiple regressions were employed for the analysis. The outcomes show that profitability, firm size, and liquidity maintain positive and statistically significant relationships and assets tangibility has a negative and statistically significant

relationship while age of the business has negative but not significant effect on STR. The findings also show that growth rate, financial leverage, free cash flow and business risk have positive but no significant relationships with STR of the sampled companies. The study recommends that profitability, firm size, liquidity and asset tangibility are critical firm's attributes to consider when the management of publicly firms in Nigeria makes a sustainability reporting.

Adebimpe and Eno (2022) examined the corporate factors influencing sustainability reporting of listed companies in Nigeria. Four dimensions of the corporate attributes were investigated, namely: firm size, profitability, board size and board diversity. The methodology adopted was ex post facto and content analysis. Data was collected from secondary sources in particular, annual reports of companies listed on the Nigerian Stock exchange as at April 2022. From a total population of 163, a sample of 137 companies was drawn using purposive sampling technique. Eligibility was based on online presence and availability of data. Regression model was used in analyzing the data with sustainability reporting as the dependent variable and corporate attributes as independent variables. Sector, a dichotomous variable was used to control the model, with 1 representing banking and 0 otherwise. The results revealed that firm size, board size, board diversity and sector have positive and significant relationship with sustainability reporting, whereas profitability has negative and insignificant relationship. In conclusion, firm size, board size, board diversity and sector are the important determinants of sustainability reporting in Nigeria. It is hereby recommended that adequate legislations should be put in place to mandate the listed Nigerian companies to adopt sustainability reporting practices.

Winda and Dhini (2020) examined the effect of firm Size, leverage, and liquidity on the level of sustainability report by using profitability as a moderating variable. Firm samples were gathered from Sri-Kehati Index of Indonesia Stock Exchange for the period of 2016-2019. Applying purposive sampling technique, as much as 56 observations are available for further analysis. Test of hypotheses were conducted by using moderated regression analysis (MRA). Results support hypothesis one suggesting larger firm size is associated with higher sustainability report disclosure. Meanwhile, hypothesis two is rejected suggesting that leverage has no effect on sustainability reports disclosure. The results of this study also reject third, liquidity has no effect on the disclosure of sustainability reports. As for moderating variable, the results show that profitability does not affect the relation between firm size, leverage, and liquidity with sustainability report disclosure. Results of this study are expected to serve as a guideline for companies to assess the benefit of sustainability report disclosures. As for investors, the results may help investors in making investment decision. The study recommends increasing the firm size for higher sustainability disclosure. This study was carried out outside Nigeria, and based on geographical gaps the findings and recommendations might not be applicable to Nigeria manufacturing companies.

Onyinye and, Ifeoma (2019) examined the impact of firm attributes (firms size, leverage and profitability) on sustainability reporting in Nigeria. This study employs the ex-post causal research design. The sample consists of 35 manufacturing companies selected listed on the Nigerian Stock Exchange. These companies are selected because they could be regarded as environmentally sensitive companies. The study employed secondary data retrieved from corporate annual reports of the environmentally sensitive companies quoted from 2011-2017. For the estimation of the data, the Generalized Least Squares was first utilized for the estimation and moving forward fractional regression is also employed and this is because econometric modeling of bounded dependent variables presents limitations for linear estimation methods. 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. The study recommends the need for improved sustainability disclosures for companies in Nigeria.

Theoretical Framework

Stakeholder's theory

Stakeholder theory, first developed by R. Edward Freeman in 1984, says that firms should consider the interests of all stakeholders, not just shareholders, in their decision-making processes. This idea expands on the agency theory, which focuses primarily on shareholder interests and expects the board of directors to preserve those interests. In contrast, stakeholder theory broadens the restricted focus of the agency theory by incorporating the interests of various organizations and individuals, including social, environmental, and ethical interest groups (Freeman et al., 2004). Stakeholder theory asserts that the aim of a corporate body is to serve and align the interests of its varied stakeholders, including as shareholders, employees, creditors, customers, suppliers, government, and the local community.

According to stakeholder theory, a company can react to the needs and demands of influential stakeholders, with strategic disclosures being a part of the response. According to stakeholder theory, the disclosure of environmental concerns is called a process or mechanism that addresses disputes between the groups concerned, that is, corporations and stakeholders (Gray et al., 1995). Managing the relationship of the key corporate stakeholder is a critical instrument for increasing firm value (Hamman et al., 2010). Tantalo and Priem (2016) argue that several possible sources of value generation exist for each critical stakeholder. Corporate sustainability reporting reflects the concerns of different stakeholder groups about sustainability problems. According to stakeholder theory, corporate sustainability practices may build a positive reputation among workers, customers, and other public groups, which not only increases company value but also improves the business's market share and competitive edge.

Resource based Theory

The Resource-Based View (RBV) In the 1990s, with the rising adoption of the resource-based approach, strategy researchers' focus regarding the sources of "sustainable competitive advantage" migrated from industry into business particular features. Introduced in the mid-1980s by Wernerfelt (1984), Rumelt (1984) and Barney (1986), the resource-based view (RBV) has since emerged into a prominent modern approach to understanding "sustained competitive advantage". The notion of the RBV in the strategic management study arose in the early 1990s. Hence the study argues that firm's resources such as leverage, size, financial performance, liquidity and other resources and assets can influence whether a firm adopts sustainability reporting as part of its stewardship strategy and even its competitive strategy and this is even more relevant given the recent emphasis and growth in the number of investors interested in sustainability investing. Branco and Rodrigues (2006) present details basing on the RBV the reasons why organizations carry out sustainability reporting projects by highlighting the internal and external benefits they obtain. Using the RBV theory, this study claims that the degree of sustainability disclosures depends on numerous internal and external aspects which includes the firm's features and structure of the firm.

Agency theory

Agency theory, anchored in economic principles, was initially introduced by Alchian and Demsetz (1972) and further refined by Jensen and Meckling (1976). According to Jensen and Meckling (1976), agency relationships entail a contract whereby the principal entrusts another individual to operate the firm on its behalf, giving decision-making rights to the agent. However, if both sides to the partnership do not operate in each other's best interests, there is a possibility that managers will not always work in the owners' interests. To mitigate such conflicts, owners can provide proper incentives for managers and invest in monitoring methods to control the agent's opportunistic tendencies (Fama & Jensen, 1983). From an agency theory perspective, corporate governance promotes business performance by addressing agency concerns through scrutiny of management actions, constraining management's self-interested behaviors, and monitoring the financial reporting process (Habbash, 2010). Thus, stronger corporate governance processes are projected to result in higher financial performance. Drawing on agency theory, this study identifies components of corporate business traits to evaluate their relationships with sustainability disclosure.

The theoretical underpinning theory for this study is agency theory since it provides a useful lens for studying the relationship between company qualities and sustainability disclosure practices. Agency theory implies that business size, leverage, and profitability operate as major drivers affecting firms' disclosure practices. Larger organizations may exhibit higher degrees of sustainability disclosure due to their enhanced resources and visibility, attempting to offset potential information asymmetry and agency conflicts between management and shareholders

3. METHODOLOGY

This study adopted the ex post facto research design with longitudinal panel since the study is secondary data research. Population of the study consists of all listed non-financial companies on the Nigeria Exchange Group (NGX) as at 31st December 2023. The sample size comprises top 70 listed non-financial companies who has consistently published their annual reports and purposive sampling techniques was adopted. Data required for this study were obtained from audited financial statements and annual reports of the listed manufacturing companies in Nigeria for a period of 12 years from 2012 to 2023 under consideration and from the Nigerian Stock Exchange fact book. The inferential analyses also involve the application of the appropriate statistical technique of Panel Regression Analysis; this is due to the nature of the data. The data was therefore analyzed using E-view 13 statistical software. The study adapts the model of Ogunmodede *et al.* (2024):

The Panel regression model

$$ESG = \beta_0it + \beta_1LIQit + \beta_2FAGEit + \beta_3ATANit + \epsilon_{it} \dots \dots \dots (i)$$

Where

β_0 = The autonomous parameter estimates (intercept or constant term)

$\beta_0 - \beta_3$ = Parameter coefficient of Firm Attributes.

ESG= Environmental, Social and Governance Disclosure

LIQ = Liquidity

FAGE= Firm Age

ATAN= Asset Tangibility

ϵ_{it} = Stochastic Error term

The a priori expectation: Firms attribute has a positive and significant effect on sustainability disclosure of listed companies in Nigeria. i.e. $\beta_0 - \beta_4 > 0$

Table 1: Variable Measurement

S/N	Variables	Measurement	Source
Dependent Variable			
1	ESG	Information on company's environmental, social and governance Systems/policies exist	Wan <i>et al.</i> , (2023)
Independent Variable			
2.	LIQ =	Current Ratio: Current Assets to Current Liabilities	Almakura <i>et al.</i> , (2024)
3.	FAGE=	Number of years since incorporation	Fahmida, <i>et al.</i> , (2022)
4	ATAN =	Property plant & Equipment (PPE)/ Total Asset	Nangih, <i>et al.</i> , (2023)

Source: Researcher Compilation (2025)

4. RESULT AND DISCUSSION

Descriptive Statistics

In order to have glimpse of the data used in the study, a first pass at the data in form of descriptive statistics was carried out. This gives us a good idea of the patterns in the data used for the analysis. The summary statistics is presented in Table 2 below.

Table 2: Summary Statistics

	ESG	LIQ	FAGE	ATAN
Mean	48.29156	1.496951	48.15714	0.404167
Median	48.57143	1.135139	49.00000	0.380000
Maximum	83.01588	38.69775	126.0000	0.970000
Minimum	11.42857	0.000000	2.000000	0.000000
Std. Dev.	8.075196	2.467351	24.03690	0.248152
Skewness	-0.508395	10.08235	0.766376	0.226358
Kurtosis	5.816406	131.1653	3.926733	2.036612
Jarque-Bera	313.8102	589154.0	112.2857	39.65738
Probability	0.000000	0.000000	0.000000	0.000000
Sum	40564.91	1257.439	40452.00	339.5000
Sum Sq. Dev.	54710.18	5107.684	484751.3	51.66502
Observations	840	840	840	840

Source: E-View 13 Output (2025)

Table 2 revealed the summary of descriptive statistics of the variables included in the model. It shows the mean values of 48.29156, 1.496951, 48.15714 and 0.404167 for ESG, LIQ, FAGE, and ATAN respectively. The standard deviation from the mean is 8.075196, 2.467351, 24.03690 and 0.248152 for ESG, LIQ, FAGE, and ATAN respectively during the 2012 to 2023 study period.

The analysis was also fortified by the value of the skewness and kurtosis of all the variables involved in the model. All the distributions are positively skewed except ESG. Variables with value of kurtosis less than three are called platykurtic (fat or short-tailed) and ATAN qualified for this during the study period. On the other hand, variables whose kurtosis value greater than three are called leptokurtic (slim or long tailed) and all the remaining variables qualified for this during the study period. Jarque-Bera test shows that the residuals are not normally distributed as none of the values is close to zero. The profitability figures of all the variables are statistically significant during the study period.

Correlation Analysis

Table 3 presents correlation values between dependent and independent variables and the correlation among the independent variables themselves. These values are generated from Pearson Correlation output. The Table contains correlation matrix showing the Pearson correlation coefficients between the dependent and independent variables and among the independent variables of the study. Generally, a high correlation is expected between dependent and independent variables, while a low correlation is expected among independent variables.

***Decision rule:** correlation ranges from -1 to +1

Table 3: Correlation Analysis Result

Probability	ESG	LIQ	FAGE	ATAN
ESG_D	1.000000			

LIQUIDITY	0.066521	1.000000		
	0.0540	-----		
AGE	0.047713	0.049107	1.000000	
	0.1671	0.1550	-----	
ATAN	-0.077153	-0.096836	-0.156260	1.000000
	0.0253	0.0050	0.0000	-----

Source: E-View 13 Output (2025)

Table 3 shows the correlation between the dependent variable, ESG and the independent variables of LIQ, FAGE, and ATAN and also among the independent variables themselves on the other hand. According to Gujarati (2004), a correlation coefficient between two independent variables of 0.80 is considered excessive, and thus certain measures are required to correct that anomaly in the data. From the table, it can be seen that all the correlation coefficients among the independent variables are below 0.80. This point to the absence of possible multicollinearity among the independent variables and the correlation between the variables shows that there is a mix of both positive and negative correlation among the dependent and independent variables. There exist positive significant and 6.6% correlation between ESG and LIQ respectively indicating that the higher the ESG the higher the LIQ. Furthermore, it is notable from the analysis that all the

association between and within the variables of studies are weak, thus, signifies absence of possible multicollinearity.

Diagnostic Test (Multicollinearity Test (VIF))

To ensure the rigidity of the measurements, multicollinearity tests were performed, using the Variance Inflation Factor (VIF) as the rigidity test. Multicollinearity occurs when one or more independent variants have a stronger influence on others and this condition is a violation of the linear regression model, that so it may affect the validity of the outcome in any analysis.

Multicollinearity tests are performed to test whether there is a strong correlation between independent variables that may result in misleading results.

***Decision rule:** Center VIF less than 10 indicates the absence of multi-collinearity, while VIF intermediate over 10 is a sign of multi-collinearity.

Table 4: Multicollinearity Test (VIF) Table

Variance Inflation Factors

Variable	Uncentere		
	Coefficient d Variance	VIF	Centered VIF
LIQUIDITY	0.012785	1.387407	1.013795
AGE	0.000137	5.166334	1.029424
ATAN	1.292406	3.789884	1.036663
C	0.746426	9.734377	NA

Source: E-View 13 Output (2025)

As noted above, the law of multicollinearity test rule uses a variance inflation factor that centered VIF below 10 indicates a lack of multi-collinearity, while VIF intermediate over 10 indicates the presence of multi-collinearity. Table 4 above shows the absence of multicollinearity between independent variables, as all independent variables (LIQ, FAGE, and ATAN) have less than 10 VIF centres.

Robustness Test (Heteroskedasticity Test)

A heteroskedasticity test was performed as a diagnostic check to verify the robustness of the estimates. Heterogeneous variance occurs when the standard error of the variable being monitored is not constant over time. Heteroscedasticity violates linear regression modelling assumptions and can affect the validity of analytical results. On the other hand, heteroscedasticity does not cause any bias in the coefficient estimates, but it reduces the precision, and less precise coefficients are more likely to be estimated. The estimates are far from the correct population values that have been removed.

***Decision Rule:** The null hypothesis is to be accepted if the p-value is greater than 5% level of significant.

Hypothesis

H₀: The Error Variances are all Equal (Homoskedastic)
H₁: The Error Variances are not Equal (Heteroskedasticity)

Table 5: Heteroskedasticity Test

Specification: ESG C LIQ FAGE ATAN

	Value	Df	Probability
Likelihood ratio	14.27030	3	0.5823

Source: E-views 13 Output (2025)

Table 4.4 shows the results of the panel cross-section Heteroskedasticity regression test. The null hypothesis of the test states that there is no Heteroskedasticity, while the alternate hypothesis states that there is Heteroskedasticity. The null hypothesis is not to be rejected if the P value is greater than 5% level of significance. From the result in table 4.4 above with a ratio value of 14.27030 and a corresponding probability value of 0.5823 which is greater than 5%, the study therefore accepts the null hypothesis, showing that there is no Heteroskedasticity problem. Consequently, based on the diagnostic probability 0.5823 the null hypothesis is not rejected, thus there is no conditional heteroskedasticity, indicating that residuals are homoskedastic and as such the samples give a true reflection of the population.

Hausman Test

The Hausman test is a test for model specification in panel data analysis and this test is employed to choose between fixed effects model and the random effects model. Due to the panel nature of the data set utilized in this study, both fixed effect and random effect regressions analysis were run. Hausman specification test was then conducted to choose the preferred model between the fixed effect and the random effect regression models. The test basically checked if the error terms were correlated with the regressors. Thus, the hypothesis for the Hausman specification test is stated thus:

H₀: Random effect is more appropriate for the Panel Regression analysis

H₁: Fixed effect is more appropriate for the Panel Regression analysis

***Decision Rule:** If the p-value is greater than 0.05, accept the H₀, if otherwise reject.

Table 6: Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	24.442897	3	0.0000

Source: E-views 13 Output (2025)

The Result of the above Hausman test shows that the cross-section chi-square statistics value is 24.442 while the probability values of is 0.0000. The above result provides sufficient evidence to reject the null hypothesis at 5% level of significance as can be seen that the probability value (0.0000) of the test is less than the critical value of 0.05. Therefore, the study upholds that

difference in coefficients is not systematic and hence, the fixed effect model is the most appropriate models for the study.

Likelihood Ratio Test

The Fixed Effect Likelihood Ratio test is a test for model specification in panel data analysis and this test is employed to choose between pooled effect model and the fixed effects model. Due to the panel nature of the data set, both pooled effect and fixed effect regressions were run. Fixed effect likelihood ratio specification test was then conducted to choose the preferred model between the pooled effect and the fixed effect regression models. The test basically checked if the error terms were correlated with the regressors. Thus, the decision rule for the fixed effect likelihood ratio specification is stated thus; at 5% Level of significance:

Table 7: Redundant Fixed Effects Tests

Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	9.593860	(69,767)	0.0000
	522.67053		
Cross-section Chi-square	1	69	0.0000

Source: E-View 10 Output (2025)

Based on the probability value of the at 0.0000, this implies that there is enough evidence to reject the null hypothesis which states that pooled effect is most appropriate for the Panel Regression analysis. It thus stands that error component model (pooled effect) estimator is not appropriate because the pooled effects are probably correlated with one or more regressors. Thus, the most consistent and efficient estimation for the study, given the options of a pooled effect analysis and a fixed effect analysis, is the fixed effect model of regression analysis.

Test of Research Hypotheses

In line with the objectives stated, the following hypotheses were formulated, and are all restated below in null form:

H₀₁: Liquidity has no significant effect on Sustainability disclosure of listed non-financial companies in Nigeria.

H₀₂: Firm age has no significant effect on Sustainability disclosure of listed non-financial companies in Nigeria.

H₀₃: Asset tangibility has no significant effect on Sustainability disclosure of listed non-financial companies in Nigeria.

Table 8: Panel Regression Result (Fixed Effect)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LIQUIDITY	0.129032	0.109282	1.180728	0.2381
AGE	0.302849	0.063157	-4.795190	0.0000
ATAN	-2.986500	1.867307	-1.599362	0.1102
C	63.88979	3.324647	19.21702	0.0000
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.671717	Mean dependent var	6	48.2915
Adjusted R-squared	0.622126	S.D. dependent var	6	8.07519
S.E. of regression	6.138605	Akaike info criterion	6	6.54996
Sum squared resid	28902.45	Schwarz criterion	2	6.96132
Log likelihood	-2677.986	Hannan-Quinn criter.	6	6.70762
F-statistic	9.512133	Durbin-Watson stat	2	1.98138
Prob(F-statistic)	0.000000			

Source: E-views 13 Output (2025)

Table 8 displays and analyses the panel random regression results of the explained variable proxied by ESG as well as the explanatory variables LIQ, FAGE, and ATAN. Between the R^2 and the adjusted R^2 , there is a range of values 67.2% and 62.2% respectively. The variation in the dependent variable (ESG) as a result of change in the independent variables is explained by the R^2 of 67.2%. Therefore, it can be concluded that the independent variables have a combined predictive power of influencing the sustainability disclosure of listed non-financial companies in Nigeria, with the remaining 32.8% been explained by other factors not included in the model. Furthermore, the regression results as presented above reveals an intercept of 63.8 which is positive. This simply implies that when other variable is held constants, the sustainability disclosure of listed non-financial companies increases by 63.8. The result of the constant is statistically significant, as indicated by a P-value of 0.0000.

Table 4.7 described that the coefficient of the variable LIQ was 0.129032 with a p-value of 0.2381 (>0.05). It can be deduced that liquidity has a positive but insignificant effect on the sustainability disclosure of listed non-financial companies in Nigeria, indicating acceptance of the null hypothesis.

Also, the second hypothesis revealed that the coefficient of the variable FAGE was 0.302849 with a p-value of 0.0013 (<0.05). It can be deduced that firm age has a positive and significant effect on the sustainability disclosure of listed non-financial companies in Nigeria, which indicates acceptance of the alternative hypothesis.

Furthermore, the third hypothesis shows that asset tangibility (ATAN) coefficient was -2.986500 with a p-value of 0.1102 (>0.05). It can be deduced that asset tangibility has a negative and insignificant effect on sustainability disclosure of listed non-financial companies in Nigeria. Hence, the acceptance of the null hypothesis.

Discussion of Findings

The result of the study as explained above indicate that liquidity has positive but insignificant effect on sustainability disclosure of listed non-financial companies in Nigeria. Liquidity of a company has no influence on the sustainability disclosure of corporate organization. The study is in agreement with the findings of Ogunmodede *et al.*, (2024) , Hammad and Mill, (2023) while on the contrary opinion disagree with the findings of Okolie and Uwejean, (2022).

Also, it is evidence from the findings that firm age has positive and significant effect on sustainability disclosure of listed non-financial companies in Nigeria. Firm age contributes greatly to effective and efficient functioning of non-financial organizations in Nigeria. This study also congruent with the study of Adekanmi, (2022). Adebimpe and Eno (2022), but negate the study of Berto (2020).

Likewise, the findings of the study shows that asset tangibility has a negative and insignificant effect on sustainability disclosure of listed non-financial companies during the period under review. This furthered review that asset tangibility within the period under review does not have significant effect on sustainability disclosure. This finding agreed with the study of Onyinye and, Ifeoma (2019), Onyinye and, Ifeoma (2019), but however disagreed with the findings of Onyali and Okafor (2018).

5. CONCLUSION AND RECOMMENDATIONS

This study investigates firms' attributes and sustainability disclosure of listed non-financial companies in Nigeria. Based on the study findings reached through the study objectives guided by the study hypotheses, the following conclusion were made; the study affirmed that liquidity and asset tangibility have positive and negative effect and insignificant effect on sustainability disclosure of listed non-financial companies in Nigeria. While on the other hand, the study concluded that firm age has positive and significant effect on sustainability disclosure of listed non-financial companies in Nigeria. Businesses have a great deal of flexibility in deciding whether and how to account for the costs and benefits of their business activities that are related to the economy, society, and environment because sustainability reporting is voluntary and unregulated. These results add to the corpus of information already available about the connection between a firm attribute and sustainability disclosure. Researchers and industry practitioners alike stand to gain directly from these insights, which can help managers create sustainable strategies.

Based on the findings, the study recommends as follows;

- i. In recognizing of the fact that liquidity may not directly translate into increased sustainability reporting, listed non-financial services companies in Nigeria may consider allocating resources towards sustainable investments such as energy efficiency, community

- development programmes, transparent ESG reporting system. This could translate to long-term value and contribute to a more sustainable future.
- ii. Policymakers and regulators such as Securities and Exchange Commission, Nigerian Exchange as well as Financial Reporting Council should channel efforts towards supporting established companies by providing incentives that prioritize long-term sustainability practices. Also, emerging companies should be encouraged to have access to financial resources, and mentorship opportunities from more established companies.
 - iii. Listed non-financial companies on the NGX should prioritize non-asset-based factors such as corporate governance, stakeholder engagement, and ESG integration to enhance transparency. Similarly, regulators should encourage uniform sustainability reporting standards across firms, regardless of their asset structure.

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