International Journal of Humanities Social Science and Management (IJHSSM)
Volume 4, Issue 4, Jul.-Aug., 2024, pp: 911-928 www.ijhssm.org

Moderating Role of Board Independence on the Effect of Environmental and Governance Sustainability Disclosure on Firm Value of Listed Non-Financial Firms in Nigeria

[1]OGUNSOLA E. Akintunde, [2]DANIEL, Emmanuel Kayode, Ph.D., & Ass. Prof [3]ORBUNDE Benshima

[1,2&3]*Department of Accounting, Faculty of Administration, Bingham University, Karu, Nasarawa State – Nigeria*

Date of Submission: 28-07-2024 Date of Acceptance: 08-08-2024

Abstract

To guarantee their long-term viability, businesses must overcome many hurdles, including implementing robust environmental and governance sustainability disclosures. This study investigated how Board independence affected the effect of environmental and governance sustainability disclosure on the firm value of listed non-financial companies in Nigeria over 10 years (2012-2021). The longitudinal research design was used and a sample of 69 companies was drawn from a population of 104 using a purposive sampling technique. Secondary data from the annual reports of the companies were utilized for the analysis. Regression analysis was performed on the data. The Governance Disclosure Index (GDI) and the Environmental Disclosure Index (EDI) were used as surrogates for governance and environmental sustainability disclosure, and Tobin's Q was used as a surrogate for company value. Environmental sustainability disclosure, when moderated by board independence, was found to significantly influence the firm value of listed non-financial companies in Nigeria, while disclosure related to governance sustainability had a negative and significant influence on firm value. Findings from the study show that businesses can improve their commitment to sustainable development and the long-term value creation by adopting sustainability reporting. The study therefore recommends that companies should promote greater sustainability and long-term value creation by integrating sustainability reporting into their reporting strategy and model and that firms in Nigeria should adopt and disclose environmental and governance sustainability issues since it enhances their commitment towards achieving the goal of sustainable development.

Key words: Firm value, Governance sustainability disclosure, Environmental sustainability disclosure, Tobin's Q and Board Independence

I. INTRODUCTION

Financial value is created for shareholders when there is an increase in shareholders' wealth, represented by an increase in corporate profit or stock price, while customer value is created when satisfaction is derived from a quality product or service. Environmental, environmental, economy and governance and Economy (ESEG) factors are increasingly becoming a crucial consideration for investors. The definition of ESEG has evolved over the years to encompass a wide range of factors that impact a company's long-term sustainability. The subject of sustainability disclosure has evolved into one that is receiving widespread interest. This may be explained by the fact that, in recent times, shareholders have shown a great deal of enthusiasm for the company's non-financial information. They needed to be informed of how the company's actions would affect them and their community.

Junior *et al.* 2014 affirmed that the magnitude of the pollution is also not limited to Nigeria but global in nature. The gravity of the global environmental issues had compelled need for international conferences, National forums and industrial commitments. Such as United Nations General Assembly Commission on Environment and Development that instituted the Brandt land report which produced the guidelines on sustainable development and sustainability; Organization for Economic Cooperation and Development (OECD) which issued a guideline for Multinational Enterprises on environment, European Union in partnership with United Nation had a convention on climate change and global warming. These were

accompanied by regulatory framework to control the trend of environmental depletion and it associated effects. Some enactments and regulatory guidelines were instituted to mitigate the excesses of the participating companies and enforce best practices among international standards to sustain natural existence in the face of corporate industrial activities. Neatly juxtaposed with the regulatory and institutional framework were intensified sensitization for environmental remediation, protection and conservation through responsible behaviour and sustainable performance to the corporate environment. Companies are to justify their legitimate profile through sustainability performance to the polluted environment and communication through sustainability accounting information to stakeholders.

This study focuses on the moderating role of board independence on the effect of governance and environmental sustainability disclosure on firm value of listed non-financial companies in Nigeria. Given the above, the study thus hypothesized that:

$H0_1$: Governance sustainability disclosure index has no significant effect on firm value of listed non-financial companies in Nigeria when it is moderated by board independence.

$H0_2$: Environmental sustainability disclosure Index has no significant effect on firm value of listed non-financial companies in Nigeria when it is moderated by board independence.

II. Literature Review

2.1 Conceptual Framework

2.1.1 Environmental Sustainability Disclosure

Environmental Disclosure is a term for which no consensus definition has been reached. Adediran and Alade (2013) defined environmental disclosure as the effective and efficient reporting of the conservation efforts for the environment by an organisation as a result of the impact of its operation on the environment. However, Al-Taher, (2011) assert that, it is the process of conveying Information about a company's attitude toward the impact it has on the environment, as well as information about its practises with regard to reducing its environmental impact.

Vande *et al*. (2014) defines environmental disclosure (END) as the reporting of Quantitative and non-Qualitative information of a public interest company to both various stakeholders incorporated with the actions of environmental, environmental and economic dimensions.

Environmental disclosure is reporting by firms addressing the environmental effects of its operations (Deegan & Unerman, 2006). In other words Yusuf *et al*., (2019) opined that environmental disclosure is reporting the environmental consequences created by manufacturing operation (air land, and water) on the host community. Environmental disclosure increases the obligation of the firms further than the normal role of disseminating financial information by assuming the broad environmental duties of the firms (Gray *et al*., 1987). Manifesting good corporate governance processes and sustaining sound environmental performance are among the fundamental issues encountered by the business to ensure its sustainability. In this regard, environmental disclosure can be reckoned as way of establishing good corporate governance processes that involve openness in its environmental operations. This rigorous explanation of information disclosure in the environmental realm is also ascribed as "governance-by-disclosure (Gupta, 2008).

Companies in Nigeria and abroad are under more public scrutiny than ever before and are obligated to publish details information concerning their environmental practices. Disclosure on environmental performance assist companies to gain stakeholder's trust, to analyze potential risks involved in performing operations and to moderate the effect of these operations on the environment. It acknowledges effects of the project on the natural atmosphere and to disclose the outcomes to various stakeholders including employees, customers, community, regulatory agencies, the mainstream press and stockholders which have become crucial for the long-lasting sustainability of the organizations (Adams & Zutshi, 2004)

2.1.2 Environmental Sustainability Disclosure Index

The Environmental Sustainability Index is a tool used to evaluate and compare the sustainable development of regions or countries. It consists of a set of indicators that assess the level of sustainable development and allow for the comparison of performances among different states. The index considers various dimensions of sustainable development, including environmental, environmental, and economic aspects. It aims to provide a comprehensive and reliable representation of the concept of sustainable development. The index has been used to analyze the environmental disclosure of companies from different countries

and regions, following specific environmental standards. It has also been applied in the context of the hotel industry to assess environmental sustainability and its impact on long-term development. The Environmental Sustainability Index serves as a valuable tool for understanding and promoting sustainable practices in various sectors and regions.

2.1.3 Governance Sustainability Disclosure

Governance reporting is the process or system of reporting rules, practices and processes by which a firm is directed and controlled (Aggarwal, 2013) According to Ebimobowei (2011), governance reporting is the process of disclosing rules and accepted procedure to solve conflict between stakeholders and management. It is a term used to describe the proper functioning of institutions and their acceptance by the public. Governance reports offer detailed accounts of an organization's progress on particular compliance initiatives. It's a phrase that describes how well organizations function and how well they're accepted by the general public. Governance reports provide comprehensive information about how an agency is doing with specific enforcement measures.

In Nigeria, the code of corporate governance 2018 states that companies should pay adequate attention to the interests of their stakeholders such as their employees, host community, consumers, and the general public. Furthermore, Part E section 26.2 of the corporate governance code assert that the board of directors should establish policies and practices regarding its environmental, environmental and governance policies and practice. Based on the latter, investigating the extent to which female director qualification, environmental expertise, and board activity affect environmental governance (ESG) practices becomes necessary within the context of listed non-financial firms in Nigeria. This is because the board's responsibility is to protect the corporate stakeholder interest.

The various interests between stakeholders require ethical obligations of the board of directors, which is embodied in the qualification and expertise (Howton, *et al* 2008; Mahmood *et al* 2018). The boards connect the investors with the managers, as well as the enterprise with the wider community in which it operates; they must balance the demands of various interested parties. Also, boards of directors need specific capabilities to fulfill their tasks of governing strategy, to integrate, build, and reconfigure their resources and competencies (Eisenhardt & Martin, 2000). Board activities can be directed to balance the financial incentives and incentives to support responsible behavior because the more balance incentives will reduce conflict and allow a better focus on long-term value creation (MacKenzie, 2007).

2.1.4 Governance Sustainability Disclosure Index

The Corporate Governance Disclosure Index (CGDI) has been developed based on the mandatory and non-mandatory parameters from Code of corporate governance released by the financial Reporting Council of Nigeria. The CGDI consisted of 43 parameters categorized into eleven broad dimensions namely - Statement of Philosophy, Board of Directors, Board Meetings, Audit committee, Shareholder's/Investors Grievance Committee, Remuneration Committee, Nomination Committee, General Body Meetings, General Shareholder Information, Mandatory Disclosures and Non-mandatory Disclosures. These 43 parameters were drawn in a framework to calculate the corporate governance disclosure score and hence the Corporate Governance Disclosure Index.

A dichotomous procedure was followed to score each of the disclosed parameters. Disclosure of a particular item is given a score of 1 or 0 otherwise. All the parameters were given equal weight as they are considered equally important for the effective corporate governance. The Overall Corporate Governance Disclosure score of each company was calculated by summing up the individual scores of each dimension. This total indicates the extent of information disclosed in the annual report. 52 could be the maximum possible score that a company could score if all the items are disclosed. The Corporate Governance Disclosure Index was then calculated as

$$CGDI = \frac{\text{Total Score of a company}}{\text{Maximum possible score obtainable by the company (52)}} \times 100$$

The Value of CGDI ranged between 0 to 100 where 0 represents the worst disclosure and 100 represent the best disclosure by a particular company. The CGDI only indicates the presence of information in the annual or corporate governance

report of a company but not the quality and extent of disclosure of a particular parameter.

2.1.5 Board Independence

Board independence refers to the extent to which a board is comprised of non-executive directors who have no relationship with the firm beyond the role of director (Davidson *et al*., 2005). A non-executive director is defined as a director who is not employed in the company's business activities and whose role is to provide an outsider's contribution and oversight to the board of directors (Coles, 2008). A non-executive director who is entirely independent from management is expected to offer shareholders the greatest protection in monitoring management (Baysinger & Butler, 1985). A board is independent, when the numbers of independent non-executive directors that are not associated with top executives of the firm are more (Coles, 2008, Kim, 2014).

The board comprises executives and non-executives who are either independent or non-independent directors. The non-executive directors play the role of a watch dog for the actions of the Chief Executive Officer (CEO). Executive directors ensure that the shareholders' interests are well protected and add to the mixture of skills and expertise of the directors. The independence non-executive directors are effective tool for controlling the activities of the managers (Amba, 2013). A high proportion of independent directors on the board enhances the monitoring of managerial opportunism and reduces information asymmetries (Ilaboya & Obaretin, 2015).

Fama (1980) posit that the superior monitoring ability of non-executives can be attributed to the incentive to maintain their reputations in the external labor market. Independent nonexclusive directors are outside directors as opposed to either insider, who are managers or employees of the firm directors or dependent non-executive directors, who have personal and/or professional relationships with the firm other than board membership is the proportion of independent non-executive directors on the board is viewed as a major factor influencing financial performance in particular Independent non-executive directors. Shafi, *et al*, (2020) stress that non-executive directors are independent of managers, and they contribute their wealth of experience to the firm by diligently carrying out their oversight functions. The focus on board independence is grounded in the agency theory and complemented by the stakeholder perspective, as representatives of the stakeholders, the independent non-executive directors are perceived as a tool for monitoring management behaviors resulting in more information disclosure.

According to Obigbemi *et al.* (2016), the CGCs in Nigeria require the composition of corporate boards with a mix of both executives and non-executive directors. Board independence is therefore measured with reference to the number of non-executive directors in identified corporate boards by specifically weighing its proportion to total board size. However, board independence describes the intensity of independent/non-executive director's presence in corporate boards (Rashid, 2018). No doubt, the level of independence of corporate boards largely determines the extent of corporate boards' abilities to make independent judgments that will improve the value of the firm irrespective of possible conflicting interests between those of shareholders and the management team of their respective organizations (Abdulkarim & Zuriqi, 2020).

2.1.6 Firm value

The worth of a company's assets is reflected in its firm value (Feng, 2010). Value of the company is important since it reflects the wealth of its owner. As a result, the manager bears primary responsibility for maximizing the firm's value (Feng, 2010). The worth of a corporation can attract the interest of other parties. Asset earnings power has a favourable impact on asset turnover, as seen by the better earning powers of the organisation. Profit margins will be higher as a result of this, consequently, this will have a positive impact on the company's value.

Interest in foreign ownership and its ability to boost business value in host nations has grown significantly in recent years. Mergers and acquisitions and cross-listings of companies across national boundaries have been increasing in recent years in both developed and emerging economies. Foreign investors can easily invest in companies based in different parts of the world thanks to global capital markets. Since its inception till the present, a company's value has been built up over time as an indication of public confidence in its operations (Safitri *et al*., 2019). Firm value is by measuring Tobin's Q, which shows how much value a company makes from its assets. It is the present value of future cash flows, discounted at the required rate of return, and risk-adjusted (Chen & Lee, 2017). Tobin's Q measures how well a company utilises its financial resources and demonstrates its

corporate environmental responsibility (CSR) (Gamayuni, 2015).

2.1.7 Tobin's Q

Since its inception till the present, a company's value has been built up over time as an indication of public confidence in its operations (Safitri *et al*., 2019). firm value is by measuring Tobin's Q, which shows how much value a company makes from its assets. it is the present value of future cash flows, discounted at the required rate of return, and risk-adjusted (Chen & Lee, 2017). To measure a company's value, investors look at how well it manages its resources. Fama (1978) stated that the value of a company is reflected in its share price and that the price of shares traded on the exchange group is a measure of company's value for companies that issue shares in the capital market.

2.1.8 Firm size

One of the factors influencing company performance is firm's size. Firm size is a scale that reveals the boundaries of a company. Most often than not, firm size is being assessed based on the company's total assets and total sales. According to Chen *et al*, (2005), companies with large total assets are considered to have good prospects in a relatively stable period and are able to generate profits compared to companies that have small total assets. Firms size, because of the concept of economies of scale, can take advantage of their size to determine what goes in as inputs thereby reducing their average costs and increasing profitability to the company. This implies that companies can manufacture goods at much lower cost. Large scale companies have a higher competitiveness than small companies because large companies have a large market, so they have great opportunity to obtain large profits (Damarwan & Toro, 2012). Companies with large market capitalization also have their employees size increased which can also be a measure of firm size. The greater the size of the company can give a good signal to the public about the future prospect of the company.

2.2 Empirical Review

Emmanuel and Ifeanyichukwu in (2021) studied the effect of environmental disclosure on firm value of manufacturing companies in Nigeria. The objective of the study was to examine the effect of environmental disclosure on firm value of listed manufacturing companies in Nigeria. In order to select an appropriate sample, a convenience sampling technique was used to select 40 manufacturing companies from the list of all quoted companies in Nigeria that were active from 2010 to 2019. Share price is the explained variable. Ex-post facto research design was adopted for the study. Multiple regression was used to analyze the data collected from the financial statement of the sampled companies. Stock prices were found to be significantly impacted by environmental disclosures. Firms in Nigeria should adopt and disclose environmentally friendly policies since it portray their commitment towards achieving the goal of sustainable development. The study sample is confined to forty manufacturing companies, and the OLS regression approach is used to estimate the results. A different outcome could have been obtained by extending the study time and using a more generalized regression method.

Emmanuel *et al*.(2019) assessed the impact of environmental disclosure on the value of listed Industrial goods firms in Nigeria from 2007 to 2009. The study made use of ex-post facto research design and relied on secondary data extracted from the annual report of 18 industrial goods firms out of which 15 firms were selected using census sampling technique. Measures of environmental disclosure used in the study include non-financial indicators, financial indicators and performance indicators while the firm value is measured by Tobin's Q. A linear regression model was used to analyze the study data. The outcomes revealed that non-financial indicators exert a positive significant effect on firm value, while performance indicators exert a negative influence. Also, it was reported that financial indicators have no significant influence on the firm value of the industrial goods firms in Nigeria. It was recommended that companies should ensure they comply with the GRI in order to grow their value. The gap in the study is that only 2 years data was used. If increased, it may give a different result.

Deswanto and Siregar (2018) analyzed the moderating effect of environmental disclosure on the link between environmental performance, financial performance and firm value. The aim of the study was to examine the effect of environmental disclosure on firm value and financial performance. A sample of 211 firms was drawn from a population of 1477 firms listed on the Indonesia Stock exchange from 2012 to 2014. Firm value was measured with closing share price, return on sales was used for financial performance while GRI 3.1 scoring and ranking was used to proxy

environmental disclosure and environmental performance respectively. The study used secondary data and simultaneous equation modeling and panel regression technique of data analysis. The study findings revealed that environmental disclosure does not enhance financial performance and firm values. Also, the result showed that environmental disclosures do not moderate the effect of financial and environmental performance on firm value in Indonesia. The study recommended that increase in sustainability disclosure should be encouraged by government through rating and assessment mechanism. The sample used in the study comprise of only companies that received the green industry award from the ministry of industry in Indonesia the form a limitation on the findings of the study as companies that are involved in sustainability disclosure that were not awarded were excluded from the study also the period of study of three years is not long enough to make generalizations of the findings.

Research conducted by Yondrichs *et al.* (2021) studied the influence of governance sustainability disclosure on company value for a period of seven years from 2014 to 2020. The objective of the study was to assess the effect of governance disclosure on the value of listed Indonesian companies. All companies quoted on the Indonesian Stock Exchange (ISE) from 2014 to 2020 constitute the population of the study while purposive sampling technique was used to select thirty companies. The study made use of secondary data and panel regression analysis. According to the findings, the value of a company is not significantly influenced by governance sustainability disclosure. The study recommends that formulation of regulations relating to the governance sustainability disclosure reporting and improving governance disclosure will help to attract investors and other stakeholders.

Haidar and Sohail (2021), Using listed firm on Saudi Stock Exchange from 2015 to 2017, investigated the effect of sustainability disclosure on company value of listed firms in Saudi Arabia. The objective of the study was to examine the effect of sustainability reporting on firm value of listed Saudi companies. Ex post fact research design was adopted for the study. The population of the study comprise of 519 quoted companies out of which 25 were sampled using purposive sampling technique. Tobin's Q was used to proxy the explained variable, while the explanatory variable was sustainability disclosure proxy. Secondary data was collected and analyze using OLS multiple regression, the results revealed that sustainability disclosure has no significant effect on company value. It was recommended that listed firms in Saudi should be encouraged by regulatory authorities to comply with the GRI framework for sustainability reporting as minimum disclosure requirement on sustainability reporting. OLS regression was used for data analysis in this study, which spanned a duration of 3 years and covers all sectors.

Ahmed and Kabiru (2020) investigated the effect Governance Disclosure Index (CGDI) on Firm value of 9 listed manufacturing companies in Nigeria for a period of eighty years from 2012-2019. The aim of the study was to investigate the effect of governance disclosure on firm value. The firm value was proxy by Market to Book value ratio. Secondary data were collected from financial statements of the sampled companies and analyzed using regression. The research findings reveal that CGDI has a negative and significant impact on firm value. The study recommends that management listed oil and gas companies in Nigeria should ensure that they comply with the corporate governance code and other global requirement on corporate governance.

Ullah *et al.* (2020), studied governance sustainability disclosure on market valuation of companies in the United Kingdom and Germany for two years from 2007 to 2011. The objective of the study was to examine the effect of governance sustainability disclosure on firm value of listed manufacturing companies in Nigeria. Six hundred corporate governance reports for 120 companies in the UK and Germany were examined. The study used a dynamic generalized method of moments (GMM) estimator for its analysis. Firms in the Germany and the United Kingdom have varying levels of compliance, board independence, and ownership structure. The study revealed a significant positive relationship exists between the governance sustainability index and the market valuation of Germany and British companies. This suggests that governance disclosure is value relevant in the United Kingdom and Germany. However, the market value of companies has a negative relationship with institutional block holder ownership.

Mohamad (2020), studied environmental, environmental, and governance disclosure effect on value of listed firms in Malaysia. The objective of the study was to examine the effect of environmental disclosure environmental and governance sustainability disclosure on firm value of listed manufacturing companies in Nigeria. The study used 70 firms indexed on Bursa Malaysia form

2009-2019. Tobins q ratio was used to capture firms value being the dependent variable. More so, the independent variable was proxied with environmental, environmental, and governance score via content analysis. Secondary data was collected and analyzed using robust fixed effect regression. The outcomes revealed that environmental, environmental, and governance disclosure positively and significantly influences firm value. The study recommends that the propagation of environmental, environmental and governance disclosure will increase firm value and attract investors.

Al-ahdal and Farhan (2020), conducted study on the impact of governance sustainability disclosure on financial performance of listed Indian firms for a period of 8 years from 2009-2016. The objective of the study was to assess the effect of governance sustainability disclosure on firm financial performance. The study adopted longitudinal survey design with a sample of 53 non-financial listed companies. Secondary data was collected and analyzed using regression. The findings revealed that governance sustainability has insignificant influence on firm financial performance measured by ROE and Tobin's Q. The study recommended that Indian firm's financial performance will improve without governance sustainability disclosures in place.

From Asian, Junius *et al.* (2020) researched on the effect of environmental, environmental and governance disclosure on performance of 270 listed Asian firms from 2013 to 2017. The objective of the study was to assess the effect of sustainability disclosure on financial performance of listed Asian firms. Environmental, environmental and governance scores were used to capture the independent variables, while the study dependent variables are return on asset, return on equity and Tobin's q ratio and price to earnings ratio. The random effect model outcome showed that environmental, environmental and governance Score has no significant influence on return on asset, return on equity and Tobins q ratio and price to earnings ratio. The study recommended that the financial position of listed firms will not significantly grow even without environmental, environmental and governance disclosures.

Research by Hassan (2020) studied the impact of governance sustainability disclosure on the firm value of industrial goods companies traded on the Nigerian Exchange Group. The objective of the study was to examine the effect of governance sustainability disclosure on firm value of listed manufacturing companies in Nigeria. 78 annual reports from thirteen industrial companies were examined between 2011to 2016 using a disclosure checklist and content analysis methods to extract information on governance sustainability. The data was tested using an OLS multiple regression. The study revealed that the overall governance sustainability disclosure had a significant positive impact on company's value, according to the study's findings. The study recommends that the company's value will increase as they strengthen and improve on environmental, environmental and governance disclosures.

A study by Muslichah (2020), studied the effect of environmental and environmental disclosure on firm value with financial performance as an intervening variable. The objective of the study was to investigate the effect of environmental and environmental disclosure on firm value with financial performance as an intervening variable. Longitudinal research design was adopted, and the population of the study comprise of all Indonesian companies that took part in the Sustainability disclosure award from 2013 to 2016. Purposive sampling technique was used to select fifteen companies. Tobin's Q was used to measure firm value, whereas environmental and environmental disclosure was measured via content analysis using GRI 4.0 as a check list. As an intermediary variable, the return on asset was employed to proxy financial performance. The study used the Partial Least Squares method of data analysis. The study found that financial performance acts as a mediator between environmental and environmental sustainability disclosure and corporate value of all Indonesian companies. The research outcomes indicated that environmental and environmental disclosure has a positive insignificant effect on firm value. The study recommends that companies should formulate and manage and be more organized in implementing environmental and environmentally friendly policies and Programmes as this is crucial towards improving its value.

Abdi *et al.* (2020) tested the impact of environmental, environmental, and governance disclosures on firm value and financial performance of airlines firms in Nigeria. The study's objectives was to examine how the adoption of environmental environmental, and governance reporting affect firm value of airlines companies. A sample of 8 airlines was purposively selected from 2013 to 2019. The pillar score of environmental, environmental, and governance dimensions was used to represent the independent variable. Market to book ratio and

Tobin's q were used to proxy the dependent variable. The study relied on panel data collected from secondary sources and employed multiple regression techniques of data analysis. The findings showed that environmental and governance disclosures are positively related with firm value proxies. In contrast, a negative relationship was reported between environmental disclosure and firm value. Improvement in sustainability reporting was recommended so as to assist management in maximizing shareholders value and an in-depth analysis full size and low-cost service airlines should be studied and the qualitative comparative analysis adopted to analyze the data. Furthermore, extending the period of study to cover larger years could give a robust and better basis for generalization of findings.

Emeka-Nwokeji and Osisioma (2019), examined the effect of sustainability reporting on market value of firms in Nigeria. The objective of the study was to examine how overall sustainability disclosures and it's disaggregated dimensions affect market value of listed firms in Nigeria. Tobin's Q were used to proxy firm market value. The study selected 93 out of 120 non-financial firms listed on the Nigerian Stock Exchange as at 2015. Ex Post Facto research design was adopted, and the secondary data was collected from annual reports of sampled firms from 2006 to 2015 through content analysis. The data were analyzed with descriptive statistics, correlation analysis, principal component analysis while pooled ordinary least squares regression was employed to test formulated hypotheses. The analysis showed that overall sustainability disclosures have significant positive effects on firm value. When treated individually, environmental sustainability disclosures and corporate governance disclosures have a significant positive effect on the market value of firm. The study also revealed that environmental sustainability disclosures have negative and insignificant effect on market value of firm. Based on these findings, the study recommended among other that companies should foster greater sustainability and long-term value creation by integrating sustainability metrics into their reporting model and strategy.

2.3 Theoretical framework

2.3.1 Agency Theory

According to the theory of agency propounded by and Jensen and Meckling (1976), managers will only divulge information if the advantages of doing so outweigh the cost. Whenever management (agents) behave in their own self-interest, it has a negative impact on the company's financial success and, consequently, the wealth of its shareholders. To understand contractual debt commitments, managerial compensation arrangements, or hidden political costs disclosures may be relevant. Consequently, in order to avoid paying agency fee, management wants to seem to be operating in the best interests of shareholders by disclosing financial and non-financial details (Jensen & Meckling, 1976).

Agency theory, on the other hand, views stockholders as principals and management as agents because ownership and control are distinct concepts. Furthermore, shareholders look to their agents to act and make choices in the best interests of the company. The agent, on the other hand, may not always act in the best interest of their principals when making decisions (Padilla, 2000). Managers (agents) may pursue opportunistic behavior that conflicts with the aims of the principal, resulting in the destruction of shareholders' wealth (Hamid, 2008). According to agency theorists. Sanda *et al.* (2005) explain, agents may pursue their own interests at the expense of the principal's interests if there is asymmetry in information between them. Investors' perceptions of risk rise dramatically when corporations fail to provide proper disclosures to the public. This results in the market undervaluing the shares or demanding more returns from companies that do not report their financial information in an accurate manner. Sustainability disclosure reduces Shareholders' perceptions of risk and information asymmetry, thereby enhancing market efficiency, and reduction in the firm's cost of capital through adequate sustainability disclosure. (Warren & Thomsen, 2012).

Two factors, according to Daily *et al.* (2003), have limited the scope of agency theory. There are just two participants in the theory: the agents and principals of a firm. Employees and supervisors in organizations can be self-serving, according to the principle of agency. The problem with this theory is that it has failed to account for other stakeholders. When looking at the interaction between firm owners and managers, it doesn't take into account other stakeholders like the government, customers, and suppliers. This idea shows that other stakeholders' interests are not considered. Sustainability reporting, on the other hand, aids in reducing the gap in knowledge that exists between the two parties.

2.3.2 Stakeholders Theory

International Journal of Humanities Social Science and Management (IJHSSM)
Volume 4, Issue 4, Jul.-Aug., 2024, pp: 911-928 www.ijhssm.org

Those with an interest in a company's operations and decisions, known as stakeholders, include customers, suppliers, employees, government agencies, and others who have a say in those activities. This group has the power to affect the operations and results of businesses. Freeman (1984), developed the stakeholder theory which states that firms have stewardship roles toward a wide range of stakeholders, including shareholders but not limited to creditor groups and suppliers. Because the stakeholder theory focuses on the impact of different stakeholder groups in society, we can say: sustainability disclosure is used to communicate information to a company's stakeholder groups. This raises the important issue of how to rank the interests of various stakeholders in terms of their 'right' to information (Gray *et al*., 2001). In order to resolve agency and risk-sharing problems in principal-agent relationships, agency theory prescribes two formal (and ideal) types of management mechanisms to govern these relationships (Rungtusanatham *et al*., 2007). One is outcome-based management mechanism. With this mechanism both principals and agents can observe outcomes, and the principals reward agents based on measured performance outcomes (Ekanayake, 2004). The outcome-based management mechanism emphasizes results regardless of how the agents achieve them (Choi and Liker, 1995). The other management mechanism is behaviour-based. When this mechanism is taken, principals can use behaviour controls to monitor agents' behaviours and efforts which otherwise are unknown to the principals. The behaviour-based management mechanism emphasizes tasks and activities in agents' processes that lead to the outcomes of the agents (Ekanayake, 2004).

The disclosure process is inherently thorny because not all stakeholders' interests can be reflected in the information provided. As a result, according to the stakeholder theory, it is crucial for a business to be able to balance the competing interests of various stakeholders (Robberts, 1992).

2.3.3 Legitimacy Theory

According to legitimacy theory, there is a "environmental contract" between businesses and society. This contract granted businesses the right to operate and exist in the face of society's expectations about how they should be run. It is imperative that they operate in accordance with society's norms and values to avoid threat to their survival. A gulf in credibility could develop if these expectations aren't met. If a company's behavior is not or is perceived to be conflicting with societal expectations, this can result in a legitimacy gap. Even so, it's understandable that a company's long-term success depends on upholding its environmental responsibilities. Consequently, if a company's values are inconsistent with those of society, it will not last long. It's important to remember that one of the primary goals of a corporation is to improve the standard of living for everyone. In addition, it is via sustainability reporting that the public may determine whether or not businesses are fulfilling their responsibilities to the public good.

The theory that underpins this study is the legitimacy theories. This is because sustainability-related information is critical to a firm's ability to reduce information asymmetry between agents and principals, incorporate information needs from a range of stakeholders with often conflicting interests, operate within the boundaries of the society (legitimacy) to obtain acceptance while concurrently improving overall firm value.

III. METHODOLOGY

This study adopts a longitudinal research design. This design is adopted for this study because it is non-experimental and allows the researcher to measure the effect of governance and environmental sustainability disclosure on firm value in non-financial companies in Nigeria in relation to the moderating role of board independence. The population of the study comprise of the one hundred and four listed non-financial companies out of which sixty-nine companies were selected using purposive sampling technique. Given this design, Secondary data that are historical were collect from annual report of the sampled companies and analysed using regression. The dependent variable is firm value proxied by Tobins q. The Independent variables of the study are governance sustainability and corporate environmental sustainability also proxied by Averaged value of all dummy disclosed data respectively. The moderating variable board independence is proxy with Proportion of non-executive director to total number of directors. Firm size the log of the total assets, is incorporated into the study as a control variable and is presented alongside the model specified for the study.

The following model was adopted from the work of Abdi *et al* (2021) and the first model is without moderation while the second one is with moderation.

MODEL I

$TQ_{it} = \beta_0 + \beta_1 EDI_{it} + \beta_2 GDI_{it} + \beta_3 FS_{it} + \mathcal{E}_{it}$ .... (i)

Where:
TQ =: Tobins q
EDI= Environmental sustainability disclosure index.
GDI = Governance Sustainability disclosure index.
FS = Firm Size
B = Interception of the equations;
Ɛ = The error term.

MODEL II

$TQ_{it} = \beta_0 + \beta_4 EDI{*}BI_{it} + \beta_5 GDI{*}BI_{it}\ \beta_6 FS_{it} + \mathcal{E}_{it}$ .... (ii)

Where:
TQ =: Tobins q
EDI*BI = Environmental sustainability disclosure index multiplied by Board independence.
GDI*BI = Governance sustainability disclosure index multiplied by Board independence.
FS = Firm Size
B = Interception of the equations;
Ɛ = The error term.

The Above model is with moderation.

Table 1

Measurement of Variables

Variable Acronym	Variable Name	Variable Measurement	Type	Source (s)
Dependent Variable				
TQ	Tobin's Q	The ratio of (the market capitalization + total liabilities) / the book value of total assets.	dependent	Emeka-Nwokeji and Osisioma (2019)
Independent Variables				
GDI	Governance disclosure index	Averaged value of all dummy disclosed data	Independent Independent	Abdi et al (2021)
EODI	Environmental disclosure index	Averaged value of all dummy disclosed data	Independent	Emmanuel &Ifeanyichukwu (2022). Obigbemi et al. (2016),
Moderating Variable				
BI	Board Independence	Proportion of non-executive director/total number of directors		
Control Variable				
FSIZE	Firm size	measured as the log of total assets	Independent	Yusuf and Kighir. (2021)

Source: *Researchers Computation from various research studies (2024)*

IV. Results and Discussion

Table 2
Descriptive Statistics

The Descriptive statistics below gives brief informational coefficients that summarize the data set, which can be either a representation of the entire population or a sample of a population. Descriptive statistics are broken down into measures of central tendency and measures of variability (spread). Measures of central tendency include the mean, median, and mode, while measures of variability include standard deviation, variance, minimum and maximum variables, kurtosis, and skewness.

Variable	N	mean	sd	variance	min	max	skewness	kurtosis
tq	690	1.462946	1.324688	1.754798	.12	11.3	3.250154	16.31515
gdi	690	.4167674	.1685492	.0284088	.0556	.8333	-.0737608	2.123088
edibi	690	.7156522	.1909831	.0364745	0	1	-.7645176	4.519538
b1	690	.547913	.1639905	.0268929	.17	.92	.1848128	2.296438
cgdibi	690	.2283333	.1202681	.0144644	.03	.62	.7104509	3.029893
edibi	690	.3938406	.1653721	.0273479	0	.89	.4332129	3.320807
fs	690	7.17913	.8056555	.6490808	5.24	9.31	.2270273	2.543325

Source: *STATA 14 Output Results (2024)*

Table 2 shows that the average Tobin's q of listed non-financial companies in Nigeria was 1.4629 with a standard deviation (SD) of 1.3247 and a variance of 1.7548. This is an indication that the Tobin's q of the sampled firms deviates from both sides of the mean by 1.3247, which means that the data is not widely dispersed from its mean. The Tobin's q also has a minimum and maximum value of 0.12 and 11.3 respectively. The data for Tobin's q is positively skewed with a coefficient of 3.2502, meaning that most of the data fall on the right side of the normal curve. The kurtosis coefficient of 16.3152 shows that the data was not normally distributed, which is explained by the wide range of 11.18. The Table also shows that the average governance disclosure index (CGDI) of the listed non-financial companies in Nigeria was 0.04168 with a standard deviation (SD) of 0.1685 and a variance of 0.0284, This shows that (CGDI) of the sampled firms deviate from both sides of the mean by 0.1685, which means that the data is widely dispersed from its mean. The minimum and maximum corporate governance disclosure index values of (CGDII) are 0.0556 and 0.8333 respectively. The value of 0.0556 indicates that all the companies do disclose governance issues.

The data for (CGDI) is negatively skewed with a coefficient of -0.0738, meaning that most of the data falls on the left side of the normal curve. The kurtosis coefficient of 2.1231 shows that the data was not normally distributed, which is explained by the wide range of 2.0493. In the same vein, the average corporate environmental responsibility disclosure (EDI) of the sampled firms for the study period was 0.7157 with an SD of 0.1909 and a variance of 0.0365 This means that the EDI deviate from both sides of the average by 0.1909 meaning that the data is widely dispersed from the mean. The EDI also has a minimum of 0 and a maximum of 1 respectively. The data for EDI is negatively skewed with a coefficient of -0.7645, which means that most of the data fall on the left side of the normal curve. The kurtosis coefficient of 4.5195 shows that the data was not normally distributed.

The moderating variable BI has an average value of 0.5480 with a SD of 0.1640 and a variance of 0.0269. This means that the data for BI deviates from both sides of the mean by 0.1640, which means that the data is widely dispersed from its mean. The minimum and maximum values BI are 0.17 and 0.92 respectively. The data for BI is positively skewed with a coefficient of 0.1848, meaning that most of the data falls on the right side of the normal curve. The kurtosis coefficient of 2.2964 shows that the data was not normally distributed, which is explained by the wide range of 0.75.

Furthermore, table 2 shows that the average governance disclosure (GDIBI) when moderated by board independence of the sampled firms for the study period was 0.2283 with an SD of 0.1202 and a variance of 0.0145 this means that the data for GDIBI deviates from both sides of the mean by 0.1202, which means that the data is not widely

dispersed from its mean. The minimum and maximum governance disclosure values moderated by board independence of (GDIBI) are 0.03 and 0.62 respectively. The data for (GDIBI) is positively skewed with a coefficient of 0.7105, meaning that most of the data fall on the right side of the normal curve. The kurtosis coefficient of 3.0299 shows that the data was not normally distributed, which is explained by the wide range of 2.3194.

More also the average corporate environmental responsibility disclosure (EDIBI)when moderated by board independence of the sampled firms for the study period was 0.3938 with an SD of 0.1654 and a variance of 0.0027 This means that the EDIBI deviate from both sides of the average by 0.1654 meaning that the data is widely dispersed from the mean. EDIBI also has a minimum of 0 and a maximum of 0.89 respectively. The data for EDIBI is positively skewed with a coefficient of 0.4332, which means that most of the data falls on the right side of the normal curve. The kurtosis coefficient of 3.3208 shows that the data was not normally distributed.

In addition, Table 2 shows that the firm size (FS) of the sampled firms has an average of 7.1791 and SD of 0.8057 with variance of 0.6491. This shows that FS deviates from both sides of the mean by 0.8057, meaning that the data is widely dispersed from mean. The FS also has a minimum and maximum value of 5.24 and 9.31 respectively, resulting to a range of 3.32. The data for FS was positively skewed with a coefficient of 0.2270, meaning that most of the data falls on the right side of the normal curve. The kurtosis coefficient of 2.5433 shows that the data was not normally distributed, which is explained by the wide range 4.07. The nature and degree of dispersion of the data for this study has shown that it is neither normally distributed nor skewed. Thus, it became necessary to conduct diagnostic tests to ascertain the normality or otherwise of the data.

Table 3 below shows the results of the association between the variables proxies for environmental disclosure, corporate sustainability disclosure before and after moderation. It contains the Pearson pairwise correlation coefficients of the variables under study. The correlation matrix is presented in Table 3. Below

Table 3

Correlation Matrix

	tq	edi	gdi	bi	edibi	gdibi	fs
tq	1.0000						
edi	0.1943	1.0000					
	0.0000						
gdi	0.1794	0.2827	1.0000				
	0.0000	0.0000					
bi	0.0568	-0.1148	0.0020	1.0000			
	0.1364	0.0025	0.9577				
edibi	0.2143	0.9514	0.2757	-0.0195	1.0000		
	0.0000	0.0000	0.0000	0.6089			
gdibi	0.1886	0.1209	0.7774	0.5853	0.1890	1.0000	
	0.0000	0.0015	0.0000	0.0000	0.0000		
fs	0.1664	0.3251	0.4828	0.0071	0.2938	0.3972	1.0000
	0.0000	0.0000	0.0000	0.8521	0.0000	0.0000	

Source: *STATA 14 Output Results (2024)*

Table 3 shows that there is a weak positive relationship between Tobin's q and EDI with a correlation coefficient of 0.0621 which is not significant at 5% as shown by the p value of 0.1035. This shows that a unit increase in EDI increases Tobin's q by 0.0621 units, the results also revealed a positive relationship between Tobin's q and GDI, with a correlation coefficient of 0.1794 which is significant at 5% indicating that an increase in GDI by one unit, cause Tobin's q to increase by 0.1794 units and vice versa. Tobin's q has a weak positive relationship of 0.0740 with EDI when moderated with board independence (EDIBI) which is significant at 5% thus, a unit increase in EDIBI means Tobin's q will increase by 0.0740 units and vice versa. The Table also shows that there is a positive relationship of 0.1886 between Tobin's q and governance disclosure (GDI) when moderated

with board independence (GDIBI). This implies that a unit change in GDIBI results in 0.1886 units increase in Tobin's q of the listed non-financial companies in Nigeria during the study period.

The result from Table 3 also shows that there was a positive association between Tobin's q and FS of the sampled firms during the study period This is shown by the 0.1664 correlation coefficient which is significant at 5% which implies that FIZE positively impacts the Tobin's q of listed non-financial companies in Nigeria during the period such that, a unit increase in the FIZE of will increase Tobin's q by 0.1664 unit

Table 4

Results of Multi-collinearity/VIF Test

Model I			MODEL II		
Variable	VIF	1/VIF	Variable	VIF	1/VIF
gdi	1.55	0.6431	gdibi	2.22	0.4507
edi	1.35	0. 7389	edibi	1.98	0.5060
fs	1.32	0.7561	fs	1.19	0.8417
Mean VIF	1.41		Mean VIF	1.79	

Source: *STATA 14 Output Results (2024)*

Table 4 shows multicollinearity test results for models one and two. The results revealed that GDI has a VIF of 1.55 at a 0.6431 tolerance, meaning that the data for GDI are not highly collinear with the data for other explanatory variables; EDI has a VIF of 1.35 at a 0.7389 tolerance, indicating that there was no perfect collinearity between EDI and other independent variables; FIZE has a VIF of 1.32 at a 0.7561 tolerance, which is an indication that the data for FIZE are not perfectly collinear with other explanatory variables; in model II when the variables for GDIBI, EDIBI when moderated with board independence (BI) the results revealed that GDIBI, has a VIF of 2.22 at a 0.4507 tolerance, which shows that there was no perfect collinearity between GDIBI and other explanatory variables, furthermore the results showed that EDIBI has a VIF of 1.98 and a 0.5060 tolerance level which shows that there was no perfect collinearity between EDIBI and other explanatory variables. The mean VIF for all explanatory variables of 1.41 and 1.79 for model I and Model II respectively, indicate that there was absence of perfect Multicollinearity among the independent variables. In both models, VIF is less than 10 and tolerance level is above 0.1.

Table 5

Results of Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Test and test for serial correlation

	Model I		Model II	
	Chi^2	Prob > chi2	Chi^2	Prob > chi2
Hettest	95.96	0.0000	129.07	0.0000
Serial correlation	45.513	0.0000	45.697	0.0000

Source: *STATA 14 Output Results (2024)*

Table 5 shows a Hettest Chi^2 of 95.96 and 129.07, for fitted values of Tobin's q in Model I and II respectively which is significant at 5% level of significance (P-Value = 0.000). As a result, the study accepted the alternative hypothesis, that the residuals for the fitted values of Tobin's q are heteroskedasticity and rejected the null hypothesis that the data for fitted values of Tobin's q in model I and II is homoscedasticity. The table also shows a chi2 value of 45.513 and 45.697 with a corresponding p value of 0.0000 and 0.0000 respectively which is significant at 5%. The study

therefore accepts the alternative hypothesis that that there is auto/serial correlation problem in the data and this requires the use of Regression with Driscoll-Kraay standard errors to correct the problem of heteroskedasticity and serial correlation.

Table 6
Results of Hausman test

The Husman test was used to determine between random effect regression and fixed effect regression which is most appropriate. The null hypothesis of the test is that random effect Model is most appropriate, while the alternative hypothesis is that fixed effect model is most appropriate. The decision rule is to accept the null hypothesis if the P value is greater than 5% (0.05), otherwise accept the alternative hypothesis if the P value is less than 5% (0.05).

	Model I without Moderation		Model II with Moderation	
	Chibar ^{2}	Prob.> chi^2	Chibar ^{2}	Prob.> chi^2
Hausman test	39.57	0.0000	43.06	0.0000

Source: ***STATA 14 Output Results (2024)***

The result of the Hausman test in table 6 above with chi2 value of 39.57 and 43.06 and corresponding probability values of 0.0000 and 0.0000 for models I and II respectively which is less than 5% (0.05). This implies that the fixed effect regression model is most appropriate for both models, however when pooled regression was compared with random effect regression using the spam test the results showed that fixed regression was most appropriate model for estimating model I and II.

Table 7
Results of Spam test

The spam test was used to determine between Pooled OLS regression and fixed effect regression which is most appropriate. The null hypothesis of the test is that Pooled OLS Model is most appropriate, while the alternative hypothesis is that fixed effect model is most appropriate. The decision rule is to accept the null hypothesis if the P value is greater than 5% (0.05), otherwise accept the alternative hypothesis if the P value is less than 5% (0.05).

	Model I without Moderation		Model II with Moderation	
	F	Prob.> F	F	Prob.> F
F test	10.06	0.0000	9.50	0.0000

Source: STATA 14 Output Results (2024)

The results in table 7 above for model I and II shows an F value of 10.06 and 9.50 with a corresponding P value of 0.000 and 0.000 which is less than 5% (0.05) therefore the study reject the null hypothesis and accept the alternative hypothesis and conclude that fixed effect regression is most appropriate for Model I and II.

The Breusch and Pagan LM test was conducted to determine between the pooled OLS regression and Random effect regression which is most appropriate. The null hypothesis of this test is that Pooled OLS is most appropriate while the alternative hypothesis is that random effect regression is most appropriate. The decision rule is to accept the null hypothesis if the PV is greater than 0.05 %, otherwise accept the alternative hypothesis if the P value is less than 5% (0.05).

Table 8

Breusch and Pagan LM test

	Model I without Moderation		Model II with Moderation	
	Chibar ^{2}	Prob.> chi^2	Chibar ^{2}	Prob.> chi^2
Breusch and Pagan LM test	1209.39	0.0000	1191.10	0.0000

Source: STATA 14 Output Results (2024)

The results in table 8 above show a chi^2 value of 1209.39 and 1191.10 with a corresponding probability value of 0.0000 and 0.0000 which is less than 0.05 for models I and II respectively. This implies that the null

hypothesis is rejected, and the alternative hypothesis is accepted, the study therefore concludes that random effect model is most appropriate for estimating models I and II.

Table 9
Fixed effect regression
Fixed effect regression with Driscoll-Kraay standard errors was conducted to correct the heteroskedasticity and auto correlation problem in the model the result of the regression are presented in table 9 below. The acceptance or rejection of the null hypothesis stated in the study is based on the results of the fixed effect regression with Driscoll-Kraay standard errors
This table shows the results after board independence is moderated with the variables as stated in Model II.
Fixed effect Regression

tq	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
gdibi	2.4480	0.3689	6.64	0.000	1.6135	3.2825
edibi	-0.8321	0.2204	-3.78	0.004	-1.3306	-0.3337
fs	0.1698	0.0346	4.90	0.001	0.0914	0.2481
_cons	0.0141	0.1500	0.09	0.927	-0.3252	0.3535
R2					0.5111	
F statistics					35.82	
Prob > chi2					0.0000	

Source: STATA 14 Output Results (2024)

The R squared of 0.5111 with an F statistics value of 35.82 and a corresponding Prob.> chi^2 of 0.0000 indicates that the model is significant and fit to explain the relationship expressed in the study. The nature and extent of the relationship between the dependent variable and each of the independent variables of the study in terms of coefficients, z-values, and p- values are explained below:
$H0_1$: Governance disclosure Index has no significant effect on firm value of listed non-financial firms in Nigeria when moderated by board independence.
The result as presented in Table 9 above showed that governance sustainability disclosure has significant effect on firm value when it is moderated by board independence in listed non-financial companies in Nigeria as supported by the t value of 6.64 and p value of 0.000 which is less than 5%. Based on the result, the first null hypothesis is rejected, and the alternative hypothesis is accepted that governance sustainability disclosure has significant effect on firm value when it is moderated by board independence in listed non-financial companies in Nigeria. This implies that board independence does moderates the effect of governance disclosure on firm value. These findings are similar with those of Ahmad and Kabiru (2020), Ullah *et al* (2020) and Hassan, (2020) who found that governance sustainability disclosure has significant effect on firm value. However, it is not in agreement with the findings of Yondrichs *et al* (2021) and Muslichah (2020) who found that governance sustainability disclosure has no significant effect firm value.
$H0_2$: Environmental Sustainability disclosure index have no significant effect on firm value of listed non-financial companies in Nigeria when moderated by board independence.
The results in Table 9 above revealed that environmental sustainability disclosure when moderated by board independence has a negative and significant effect on firm value at 5% significance level (t value 3.78, p=0.004). Based on the result, the second null hypothesis is rejected and the alternative hypothesis is accepted that environmental sustainability disclosure have significant effect on firm value of listed non-financial companies in Nigeria when moderated by board independence.
This finding is consistent with those of Mohammad (2020) who found that environmental sustainability disclosure has significant effect on firm value, however, the result contradicted the findings of Muslichah (2020), who found that environmental sustainability disclosure has significant effect on firm value.

Table 10
Results of Shapiro-Wilk (W) Test for Data Normality

Variable	Obs	W	V	z	Prob>z
tq	690	0.6354	163.907	12.432	0.00000
gdi	690	0.9818	8.213	5.134	0.00000
edi	690	0.9703	13.354	6.319	0.00000
bi	690	0.9825	7.896	5.038	0.00000
gdibi	690	0.9574	19.158	7.199	0.00000
edibi	690	0.9837	7.356	4.866	0.00000
fs	690	0.9869	5.886	4.322	0.00001

Source: *STATA 14 Output Results (2024)*

The study utilized the Shapiro-Wilk (W) data normality test to determine how normal the data collected is. The test was conducted to check a variable that emanates from a normally distributed population. It was meant to test the null hypothesis that the data are normally distributed at a 0.05 level of significance. The results of the test are shown in Table 3 above.

Table 10 shows that Tobin's q has a W test coefficient of 0.6354, with a Z-Value of 12.432 and P- Value of 0.00000. The test was significant at 5% with a confidence level of 95%. Thus, the study accepted the alternative hypothesis that the data for Tobin's q are not normally distributed and rejected the null hypothesis that the data for Tobin's q are normally distributed. This also applies to the data for GDI, which has a W test coefficient of 0.9818 with a Z-Value of 5.134 and P-Value of 0.00000, meaning that the test was significant at 5% with a confidence level of above 95%. Therefore, the study accepted the alternative hypothesis that the data for GDI are not normally distributed and rejected the null hypothesis that the data for GDI are normally distributed. Similarly, the W test coefficient of 0.9703 for EDI, with a Z-Value of 6.319 and P-Value of 0.00000, shows that the test was significant at 5% as a result, the study also accepted the alternative hypothesis that the data for EDI are not normally distributed and rejected the null hypothesis that the data for EDI are normally distributed. Therefore, the study accepted the alternative hypotheses that the data for BI, GDIBI, EDIBI, and FIZE are not normally distributed and rejected the null hypotheses that the data for BI, EDIBI, GDIBI, and FIZE are normally distributed as supported by a W value of 0.9825, 0.9837, 0.9574, and 0.9869 with a z value of 5.038, 4.866, 7.199 and 4.322 with a corresponding p value of 0.000, 0.000, 0.000 and 0.0001 for BI, EDIBI, GDIBI, and FIZE respectively. The outcomes from the test indicate that ordinary least squares (OLS) is not suitable for the regression analysis. Thus, the models for this study required a robust regression analysis.

V. CONCLUSION AND RECOMMENDATIONS

Based on the results of the analyses, the study concluded that board independence has a significant moderating role on the effect of environmental and governance sustainability disclosure on firm value. This depicts that progressive increase in environmental and governance sustainability disclosure brings about a significant increase in firm value of listed non-financial companies in Nigeria. The study therefore recommends that the management of listed non-financial companies in Nigeria should adopt and disclose environmental and governance sustainability issues since it enhances their commitment towards achieving the goal of sustainable development.

i. Promote greater sustainability and long-term value creation by integrating sustainability reporting into their reporting strategy and model.

ii. Firm in Nigeria should adopt and disclose environmental and governance sustainability issues since it enhances their commitment towards achieving the goal of sustainable development.

REFERENCES

[1]. Abdi, Y., Li, X., & Càmara-Turull, X. (2020). Impact of sustainability on firm value and financial performance in the air transport industry. Sustainability (Switzerland), 12(23), 1-22.

[2]. Abdulkarim, N., & Zuriqi, K. (2020). Corporate governance and earnings management: Evidence from listed firms at Palestine exchange. Asian Economic and Financial Review, 10 (2), 200.

[3]. Adediran, S. A., & Alade, S. O. (2013). The

impact of environmental accounting on corporate performance in Nigeria. European Journal of Business and Management, 5(23), 141 – 151.
[4]. Ahmad, N., Mobarek, A., & Roni, N. N. (2021). Revisiting the impact of ESG on financial performance of FTSE350 UK firms: Static and dynamic panel data analysis. Cogent Business and Management, 8(1). https://doi.org/10.1080/23311975.2021.1900500
[5]. Amba, M. S. (2013). Does CEO Duality Enhance Firms Business Performance? Empirical Evidence from Bahrain, International Journal of Business and Environmental Science, 4 (6), 88-91.
[6]. Baysinger, B. and Butler, H. (1985). Corporate Governance and the Board of Directors: Performance Effects of Changes in Board Composition. Journal of Law, Economics, and Organization, 1: 101–124
[7]. Chen, M. C., Cheng, S. J., & Hwang, Y. (2005). An empirical investigation of the relationship between intellectual capital and firms' market value and financial performance. Journal of intellectual capital, 6 (2), 159-176.
[8]. Coles, J. L. (2008). Boards: does one size fit all? Journal of Financial Economics, 87, (2), 329-356.
[9]. Darmawan, M. & Toro, J. S. (2012). The Impact of Intellectual Capital on Banks Go Public's Market Value and Financial Performance Listed in Indonesia Stock Exchange (IDX). Managerial Focus, 11 (2), 164 - 182.
[10]. Davidson, R., Goodwin-Stewart, J. and Kent, P. (2005), "Internal governance structures and earnings management", Accounting & Finance, 45 (2), 241-267.
[11]. Dianawati, W. (2021). The Influence of International Experiences on Firm Value with Corporate Environmental Responsibility as a Mediation Variable. Review of International Geographical Education Online, 11(4), 342-354.
[12]. Ebimobowei, A. (2011). A study of environmental accounting disclosures in the annual reports of Nigerian companies. Asian Journal of Business Management, 3 (3), 145-151.
[13]. Emeka-Nwokeji, N. A., & Osisioma, B. C. (2019) Sustainability Disclosures and Market Value of firms in Emerging Economy: Evidence from Nigeria. European Journal of Accounting, Auditing and Finance Research 7, (3), 1-19.
[14]. Emmanuel, U., & Ifeanyichukwu, A. P. (2022). Environmental Accounting Disclosure and Financial Performance of Listed Multinational Firms in Nigeria. Global Journal of Management and Business Research, 9(September), 17-28.
[15]. Fama, E.F. (1983). Agency Problems and the theory of the firm. The Journal of Political Economy 88 (2), 288-307.
[16]. Feng L. L. (2010) Board ownership and firm value in Taiwan. A panel smooth transition regression model. Romania journal of economic forecasting. XVI (4) 148-160
[17]. Freeman, R. E. (1984). Strategic Management: A Stakeholder Approach. London: Financial
[18]. Gautam, R. & Singh, A. (2010). Corporate Environmental Responsibility Practices in India: A Study of Top 500 Companies. Global Business and Management Research: An International Journal, 2(1), 41-56
[19]. Global Reporting Initiative (2020). G3 Sustainability Reporting Guidelines. Global Reporting Initiative.
[20]. Gray, R. M., Javad, D. M., Power & Sinclair, C. D. (2001). Environmental and Environmental Disclosure and Corporate Characteristics: A Research Note and Extension. Journal of Business Finance & Accounting 28(3/4), 327-356.
[21]. Ikechukwu, O. E., & Ndum, N. B. (2020). Effect of Sustainability Reporting on Economic Value Added of Manufacturing Firms Listed on Nigeria Stock Exchange. Journal of Economics, Management and Trade, 26(10), 15-33. https://doi.org/10.9734/jemt/2020/v26i1030295
[22]. Iswati, W. (2020). The Impact of Disclosure Sustainability Reporting, Influence Corporate Environmental Responsibilities Towards Corporate Value with Mediation of Financial Performance. International Journal of Managerial Studies and Research, 8(1), 1-16.
[23]. Jensen, M. & Meckling, W. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. Journal of Financial Economics, 3, 305-360.

[24]. Kim, Y. (2014). Board network characteristics and firm performance in Korea, Corporate Governance: An International Review, 13 (6), 800–808.

[25]. Laskar, N., & Gopal, M. S. (2018). Disclosure of corporate sustainability performance and firm performance in Asia. In Asian Review of Accounting 26, 43-54

[26]. Menike, L. M. C. S. (2020). Impact of Environmental Disclosure on Firm Performance: An Empirical Analysis of Food, Beverage and Tobacco Sector Companies Listed in Colombo Stock Exchange, Sri Lanka. *International Journal of Academic Research in Business and Environmental Sciences*, *10*(10), 518-536.

[27]. Muslichah, M. (2020). The effect of environmental and environmental disclosure on firm value with financial performance as intervening variable. *Jurnal Akuntansi & Auditing Indonesia*, *24*(1), 22–32.

[28]. Obigbemi, I.F., Omolehinwa, E.O., Mukoro, D.O., Ben-Caleb, E. and Olusanmi, O.A. (2016), Earnings management and board structure: evidence from Nigeria, *Sage Open*, 6 (3), 1-15.

[29]. Rashid, A. (2018). Board independence and firm performance: *Evidence from Bangladesh. Future Business Journal*, 4, 34-49

[30]. Roberts, R.W. (1992). Determinants of corporate environmental responsibility disclosure: an application of stakeholder theory. *Accounting, Organizations and Society*, 17 (6), 595-612.

[31]. Singh, R. (2013). Standard &Poor's environmental, environmental and governance (ESG) India index- during and post global financial crisis. *Global Journal of Management and Business Studies*, *3*(10), 1205-1212.

[32]. Yusuf, M. A. & Kighir E.A. (2021) effect of sustainability reporting on firm value of listed non-financial firms in Nigeria. *6th ICAN Annual international Academic conference* on *Accounting, Finance and* 254-271.