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IMPACT OF ENVIRONMENTAL DISCLOUSURE ON FIRM VALUE OF LISTED MANUFACTURING COMPANY IN NIGERIA. THE MODERATING EFFECT OF INSTITUTIONAL OWNERSHIP

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Abstract

This study aims to examine how environmental disclosure impact firm value in the listed manufacturing companies in Nigeria for the period of seven (7) years (2018–2024). The study aims at providing empirical evidence on how institutional shareholder influence the relationship between environmental disclosures on firm value. The study obtained data from a sample of 46 listed manufacturing companies, correlational research was used in the study, while regression analysis was conducted to test the relationship among research variables. The study revealed that environmental disclosure, and rerun on asset were significantly related with firm value but negatively inclined. Also, the study found that other variables were insignificantly related with firm value. The study recommends that management should make an improvement in their environmental disclosures. The study is constrained for not considering all listed firms in the country. Furthermore, cover only seven years' period and future study should extend the period beyond seven years. The study's findings would have practical implications for corporations and other business organizations seeking to actively involve the manufacturing operations in their business models and successfully communicate these efforts to stakeholders. To the best of author's knowledge, this is the first study that provides empirical evidence on the impact of environmental disclosures on firm value, with the effect of board institutional shareholder as moderator in Nigeria.

Keywords: Environmental disclosure, Firm value, Institutional shareholder.

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Introduction

Each entity has the objective of maintaining the continuity of its business so that its existence is maintained. In maintaining the continuity of its business, an entity must have clear and directed goals. According to Anjasari and Andriati (2021), there are several things that are the goals of business entity that plays an important role in achieving maximum profit for the welfare of stakeholders. In addition, business entities are also internally obliged to maximize the value of the company by increasing share prices. Companies in achieving these goals will face many challenges. Companies will not only face challenges in maximizing their financial performance and generating economic benefits.

Environmental disclosures refer to the information related to an organization's environmental impact as reported in their annual reports, sustainability reports, etc. The disclosures encompass, among other things, emissions data, waste management strategies, and details of compliance with environmental regulations (Hahn, Reimsbach, & Schiemann, 2020). These environmental disclosures are often voluntarily reported by the companies as part of Corporate Social Responsibility (CSR) initiatives and are meant to express a firm's commitment towards environmental sustainability. Corporate environmental disclosures can be defined as an umbrella term that describes various means by which companies disclose information on their environmental activities to users of financial statements (Alok, et al, 2008). Disclosures is necessitated because of the importance of the environment and the destructive impacts of firms' activities on the environment. This has caused the emergence of many global institutions enunciating varying norms that guide human interaction with the environment; the United Nations' Protocols and Agreement on Environment, the Kyoto Protocol to the United Nations Framework on Climate Change with some of its offshoot, the EU Directive on Environmental Issues. All these have sought to provide a legal foundation for environmental disclosures (Enahoro, 2009). In Nigeria particularly, the birth of agencies such as the Federal Environmental Protection Agency (FEPA) in 1988 and the National Environmental Standards and Regulation Enforcement Agency (NESREA) in 2007 marked a new era of environmental regulations for the nation. NESREA requires all companies whose activities have significant impact on the environment to obtain operational license and permit as a way of complying with the environmental regulations of NESREA.

The institutional theory attributes value to these disclosures via the conformity of firms to stakeholder expectations. Companies disclosing their environmental impact are viewed favourable by investors, regulators, and the public (Clarkson, Li, Richardson, & Vasvari, 2008). Given this, it is logical to surmise that increased transparency about a firm's environmental impact may increase its perceived trustworthiness, which in turn could positively influence firm value.

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However, the dynamics change when institutional ownership comes into play. Institutional ownership refers to the stakes held by institutions such as mutual funds, pension funds, etc. in a company (Bushee, 1998). Due to their inherent long-term orientation, these investors can be expected to appreciate and reward the commitment of a firm to environmental sustainability, thereby positively influencing its value (He & Tian, 2023).

Based on this, the implication is that institutional ownership can moderate the impact of environmental disclosures on firm value. The presence of substantial institutional ownership might amplify the effect of environmental disclosures on firm value. Institutions act as a kind of certification and scrutiny agent, enhancing the credibility of environmental disclosures and adding tangible value to the firm (Hillman and Kein, 2024).

Choosing the manufacturing sector in Nigeria as a case study has several reasons. Firstly, the manufacturing sector is one the key drives of Nigerian economy and play a significant role in the country GDP. The sector comprises of a diverse range of industries, including food and beverages, chemicals, textile and construction materials among others. Therefore, it provides an ideal representation of different industries that make up the Nigerian economy

Secondly, manufacturing sector in Nigeria is a major source of environmental pollution, with a high potential impact on public health and the environment. The pollution is often due to factors such as waste management, inefficient production processes, and lack of compliance with environmental with environmental regulation, among others.

It has been argued that non-financial information such as environmental disclosures have an unbooked – liability component that is assessed by the capital market (Barth and McNichols, 1994; Hughes, 2000; Amir and Lev (1996). Current debate on how environmental disclosure impacts the market value of firms is basically divided into two schools namely; the cost concerned school and the value creation school. The cost-concerned school argues that environmental investments and high environmental disclosure represent only increased costs, resulting in decreased earnings and lower market value. Consequently, the relationship between environmental disclosure and market value is expected to be negative (Jaggi and Freedman, 1992; Walley and Whitehead, 1994; Lars, Henrik & Siv (2005). Value creation school regards environmental efforts as a way of increasing competitive advantage and improve financial returns to the investors, the relationship between environmental disclosure and market value in this regard is expected to be positive (Konar and Cohen, 2000).

Previous research conducted by Widhiastuti et al. (2022) and Tjahjono & Eko (2023) stated that environmental performance has no effect on firm value. Meanwhile, Hariati & Rihatiningtyas (2020) and Mardiana & Wuryani (2024) stated that environmental performance has a positive effect on firm value. Research conducted by Tadros & Magnan

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(2024) states that environmental performance has no effect on financial performance. Meanwhile, research conducted by Fauziyyah (2024) and Lu & Taylor (2023) states that environmental performance has a positive effect on financial performance. Research conducted by Ghaesani (2021) and Bukit et al., (2023) states that financial performance has no effect on firm value. Meanwhile, research conducted by Puspitasari (2019) and Septiadi (2021) states that financial performance has a positive effect on firm value. Further, most study conducted were in developed countries and Asian countries with little conduct developing country particularly in Nigeria. To fill the gaps, the explored the impact of environmental disclosure on firm value of listed Nigeria manufacturing industries.

Firm Value

Firm value is defined as market value (Martins & Lopes, 2021). Firm value is the market value or price applicable to the company's general shares. An increase in share prices can provide maximum benefits to shareholders as well as encourage high company value (Aulia & Noorlaily, 2023). A high company value will result in a high share price, and increase market confidence in the company's current and future performance. Firm value describes how well or poorly management manages its resources. This can be seen from the measurement of financial performance. The performance of the company can be in the form of economic, social, and environmental performance in repairing damage (Hirdinis, 2024).

Various studies suggest the widespread use of Tobin's Q ratio to estimate firm value. This ratio is obtained by calculating the ratio between the stock market value and the book value of equity (Diana, 2020). A high Tobin's Q value of more than 1 indicates that the company's market value is greater than the listed company's asset value. This indicates that the market gives more value to the company, the higher the value of Tobin's Q ratio, indicating that the company has the prospect of a high growth rate as well.

Laabs (2022) stated that methods to be used for valuation can be broadly classified into earnings based approach, asset based approach and market based approach. The earnings based approachis more appropriate in case of valuation for going concern and it is also applicable in an industry where human knowledge and creativity appears more relevant in comparison to physical assets in value creation. This approach value a business by capitalizing its earnings. Among the main methods under this approach are the discounted cash flow method and the sales multiple methods. The asset based approach implies that valuation of net assets is calculated with reference to the historical cost of the assets owned by the company. The market based approach adopts the market price method. It evaluates the value on the basis of prices quoted on the stock exchange. It is the current quoted price at which investors buy or sell a share of common stock or a bond

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at a given time often referred to as market capitalization. In the context of securities, market value is often different from book value because the market value takes into account future growth potential. Regulatory bodies have considered market value as one of the very important basis of determining firm value. This method is basically used for this study.

Environmental Disclosure.

Environmental disclosures are essentially the revelation of a firm's environmental performance and impact, often made in annual reports or sustainability statements (Brammer & Pavelin, 2006). It is argued that these disclosures enhance a firm's reputation, improve its financial performance, and increase its market value (Clarkson et al., 2008)

Institutional shareholders

Institutional ownership, on the other hand, refers to the proportion of a company's outstanding shares that is owned by institutions such as mutual funds, pension funds, and insurance companies (Shleifer & Vishny, 1986. Institutional ownership can influence firm behaviour due to the potential for increased monitoring and intervention (Cornett et al., 2007). Given their prominence and power in the stock market, institutional ownership has been acknowledged as a potential moderator for the positive effects of environmental disclosure on firm value.

Environmental Disclosure and Firm Value

Tetty (2022) investigate the determinants of firm value by formulating the relationship between environmental performance and the intervening variable of financial performance. Empirical testing is done by path analysis. The results of the study suggest that firms are more likely to be able to increase the utility of environmental performance by mediating effects of financial performance. This means that the environmental performance effect is more likely in firms that have superior financial performance. Practically speaking, the results have implications that the implementation of environmental responsibility supported by adequate financial resources can significantly affect the perception of sustainability by company stakeholders and ultimately increase firm value. Which means the investing in environmental activities can negatively influence firm performance.

Akin and Iredele (2014) study revealed that CED has a significant positive impact on Market Value when considered in aggregate. In turn, considering the impact of each of the variables, Energy policy (ENP), Impact on Biodiversity (BIO), Award Received for installing Environmental Management System (AWR) have an insignificant positive

impact on Market Value with the exception of Environmental Research and Development cost (ERD). Also, Environmental pollution and control policy (EPC), Waste Management Cost (WSM), and Cost of compliance with environmental Laws (CEL) have a negative impact on Market Value

The first notable effect of environmental disclosures on firm value is reflected in its ability to decrease information asymmetry between management and stakeholders, including investors. (Hughes, 2000). By voluntarily disclosing environmental information, firms ease the uncertainty that potential investors might possess, thereby improving the firm's credibility in the financial market. This, in turn, positively influences the perceived firm value. Particularly, Clarkson et al. (2011) established a direct correlation between the degree of environmental disclosures and the market value of companies. Investors reward those companies that uphold transparency regarding their environmental footprint for managing potential risks efficiently.

Secondly, environmental disclosures have an indirect but significant role in shaping a company's reputation and brand value. Consequently, they notably impact a firm's perceived value. Reputation plays a paramount role in firm value – it is often viewed as the reflection of the sustainability practices of a company. Companies, which openly disclose their environmental impact, are perceived as more responsible and thus enhance their reputation (Clarkson et al., 2023). In his study, the study documented a significance but negative relationship.

Nonetheless, the relationship between environmental disclosures and firm value has also been subjected to some controversy. Critics argue that companies making environmental disclosures may face additional costs without any immediate financial benefits. Indeed, there is empirical evidence indicating such disclosures have no significant impact on a company's market value (Stewart,2023).

However, Brammer and Pavelin (2006) put forward a compelling counter-argument in their investigation, noting that the cost associated with publishing environmental disclosures is typically marginal compared to the potential reputational benefits and the ability to attract socially responsible investors.

Stakeholder theory suggests that a company involved in activities beyond profit maximization could meet stakeholders' interests (Fuente et al. 2022), generate a good reputation and competitive advantages (Li et al. 2020), and enhance firm value (Qureshi et al. 2020). Environmental disclosure provides a communication channel for the company to disseminate environmental-related projects implemented in participating to mitigate environmental issues (Porter et al. 2022) and operating the company in a green business way. This may attract green stakeholders, especially non-financial stakeholders such as environmentalists (Girerd-Potin et al. 2024), escalate reputation, and improve competitive advantage. As a result, it can enhance stakeholders' interests, attract green vendors and

green customers, and enhance firm value. That is, the more extensive environmental disclosure, the better the firm value (Li et al. 2023). Some prior studies found a positive relationship between environmental disclosure and firm value (e.g., Gerged et al. 2021; Li et al. 2018; Qureshi et al. 2020). This may still happen when the companies lack attention to environmental activities (Gerged et al. 2021) and belongs to the five most polluting industries category (Clarkson et al. 2023).

In conclusion, the relationship between environmental disclosures and firms' value is complex. Yet, there is substantial empirical evidence suggesting that the associated advantages such as reduced information asymmetry, enhanced reputation often result in an overall increment in perceived firm value. Therefore, firms should embrace a strategy that incorporates high levels of environmental transparency, as it would not merely be a matter of moral choice but also of strategic corporate value. Based on these opinions, the study set the first hypothesis as follows:

H1. There is a negative relationship between environmental disclosure and firm value in the listed manufacturing companies in Nigeria.

Environmental disclosures and institutional shareholder

Institutional shareholders play a moderator role in this relationship. As large-scale investors, they are both influential and informed, and they have the power to affect corporate decisions (Bushee, 1998). Their interest in and demand for environmental disclosures could amplify or diminish the impact of these disclosures on firm value (Dyck, et al, 2024).

The rising environmental concerns and sustainable investing trend among institutional investors have driven them to pressurize firms to engage in and report environmental activities (Lourenço and Branco, 2023). Consequently, the firms respond by stepping up their corporate environmental responsibility efforts and increasing transparency about these initiatives, which then adds to their market valuation (Clarkson et al., 2023).

In conclusion, the weight of evidence suggests that environmental disclosures do have a positive impact on firm value when institutional shareholders act as a moderator. However, the owners and managers of firms need to understand the complexity surrounding this issue and make strategic decisions that align with their institutional shareholders' interests and the society's evolving environmental expectations.

Based on the above discussion, the second hypotheses emerged:

H2. There is moderating effect of institutional shareholder on the impact of environmental disclosures on firm value of listed manufacturing companies in Nigeria.

Theoretical framework.

The topic of environmental disclosures has incited a whirlwind of intellectually stimulating discussions within academic and corporate spheres. This essay aims to present an

analytical overview of the theories that explain the influence of these environmental disclosures on firm value.

Legitimacy theory

The first theory worthy of exploration is the 'Legitimacy Theory. According to Deegan and Unerman (2021), firms continuously strive to ensure their actions are perceived as legitimate by their external environment. This perception of legitimacy could significantly impact the value of a firm. Companies who uphold good environmental practices and transparently disclose this information often enhance their reputation and attract more goodwill, hence boosting their value.

Stakeholder theory

Another influential theory is the 'Stakeholder Theory. According to Freeman et al. (2010), all companies essentially stake their survival on the satisfaction of their stakeholders. When companies make environmental disclosures, they display accountability to these stakeholders. This not only helps in retaining stakeholder trust but also adds value by attracting new customers and investors who prefer companies with eco-friendly practices. The stakeholder theory asserts that corporation's continued existence requires the support of the stakeholders and their approval must be sought and the activities of the corporation adjusted to gain that approval (Chan, 1996). This study is hinged on the stakeholder theory because according to Clarkson (1995) corporation and their managers manage their relationships with their stakeholders.

Agency theory

The 'Agency Theory' adds another layer to this discussion. Jensen and Meckling (1976) suggest that the management (agent) is expected to act in the best interests of the shareholders (principal). However, sometimes their interests may not match, causing an agency conflict. When environmental disclosures are made, they bridge the information asymmetry between shareholders and management, enhancing firm value by improving trust and reducing potential conflicts.

Resource-Based theory

Furthermore, the 'Resource-Based View' theory applies to this context. As per Barney (1991), valuable, rare, inimitable, and non-substitutable resources constitute a firm's competitive advantage. Environmental disclosures could signify a firm's commitment to sustainable practices, distinguishing it from its competitors. This unique advantage enhances the firm's reputation and value.

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Positive Accounting Theory

Lastly, the 'Positive Accounting Theory' posits that firms make environmental disclosures to minimize political costs and maximize their earnings. According to Watts and Zimmerman (1986), companies that are more profitable are more likely to catch the government's attention and face higher regulation costs. Hence, by revealing their environmental initiatives, firms can reduce potential political pressures and improve their value

In conclusion, environmental disclosures undoubtedly play a vital role in influencing a firm's value. From enhancing legitimacy to satisfying stakeholders, from mitigating agency conflicts to shaping a competitive advantage, and from reducing potential costs to maximizing profits, these disclosures leave an indelible impact on the value of a firm.

However, it is pivotal to remember that this research has only scratched the surface of the academic discourse surrounding this complex topic. Further research should delve into the practical implications of these theories to fully understand how environmental disclosures influence the value of a company in real-world scenarios.

Research methodology

This section presents population and selected listed oil and gas firms of the study. The variable and its measurements were also discussed.

Sample selection procedure

This paper assessed the impact of environmental disclosures (independent) on firm value. The population of this study comprised 76 manufacturing companies listed on the Nigerian Exchange Group (NGX) as at December 31st, 2024, this is because the sector is a contributor to Nigerian economy and this study had not been conducted in that sector. Therefore, in Nigeria there are 46 identified firms listed on NGX as at December 31st, 2022. Thirty companies were eliminated from the population because of the absence of complete data for the study period. Therefore, the study considered 46 companies as sample size of the study. The study obtained secondary data generated from the annual reports of the sample firms (46) for the period of 5 years (2018–2024).

Measurement of the variables

The variables fall into three dimensions, dependent (firm value), explanatory variable (independent) and moderating variable (Institutional shareholder).

Data for the study was sourced from the secondary source, which was basically from the annual financial statements of the sampled companies. This study uses the descriptive and multiple regression analysis (GLS) as techniques of data analysis. The choice of multiple regressions is centered on its ability to predict the impact of environmental

disclosures on firm value in the listed manufacturing companies in Nigeria with institutional ownership as moderator. Financial data on Market value and Firm size (Total Assets) were collected from sampled companies Annual Financial Reports as released by the Nigerian Stock Exchange over the period 2018 – 2024. Also, non-financial data were obtained by developing a corporate environmental disclosure index of seven (7) established environmental checklist instruments namely; Environmental pollution and control policy (EPC), Energy policy (ENP), Impact on Biodiversity (BIO), Waste Management Cost (WSM), Award Received for installing Environmental Management System (AWR), Environmental Research and Development cost (ERD) and Cost of compliance with environmental Laws (CEL) We employ a dichotomous rating system of assigning '1' if item is disclosed and '0' if it is not disclosed. A firm could score a maximum of 7 points and a minimum of 0

Model Specification

The model used in this study was adapted from the framework of Akinola and Iredola (2014); Lau and Post et al., (2024 where they ascertained the impact of environmental disclosures on firm value in Nigeria and Turkey respectively. Thus, the model used in this study is a follow up of the research mentioned above. The mathematical and stochastic form of the models in this research is stated algorithm as follows:

$MVit = \alpha 0 + \beta EDMBit + \beta ROAIit + \varepsilon it \ldots\ldots 1$

When moderating variable is introduced, the following model will ensued

$ECit = \alpha 0 + \beta EDit + \beta ISit + \beta 3FSit + \beta 4MBVit + \beta 5EDIS + \varepsilon it \ldots\ldots 2$

Where:

MVTit: Market value represented by Tobin's Q

α: Constant

β1, β2, β3, β4, and β5: Regression Coefficient of Independent and moderating Variables

EDit: Environmental disclosures.

ISit: Institutional shareholder.

BFit: Firm size

MBVit: Market to book value

EDISit: Interaction between environmental disclosures and Institutional shareholder.

Variables of the study and their measurement

The Dependent Variable. Market Value (MV): Tobins' Q = (Tobin's Q) = Market value + Total liabilities divided by Total Assets. As used by Teddy (2022)

Independent variables. Environmental disclosures (ED): Dichotomous rating system of assigning '1' if item is disclosed and '0' if it is not disclosed. A firm could score a maximum of 7 points and a minimum of 0 as used by Akinola and Iredola (2024)

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Moderating Variable. Institutional shareholder. (IS): Ration of number of share hold by Institutional shareholder to total number of shares used by Dyck, et al., (2024)

Control Variable. (ROA). Net profit divided by total assets as it was used by Teddy (2022.

Control Variable. Firm size (FS): Measured by natural log of the total asset. Used by Dyck, Lins, Rothman, & Wagner, (2024).

Control Variable; Firm age (FY). Measured by natural log of firm age since incorporation as used by Yeddy (2022)

Result and Discussion

This section presents descriptive statistic, correlation matrix table, VIF, direct and indirect regression results.

Table 1: Multicollinearity Test

Variable	VIF	1/VIF(TV)
Ed	1.75	0.571053
Roa	1.71	0.586202
Fy	1.30	0.767008
Fs	1.00	0.996463
Mean VIF	1.44	

Source: out of VIF developed by researcher using STATA 14 (2025)

The two common ways to check for the presence of Multicollinearity between independent variables are correlation coefficients and variance inflation factors (VIF) with tolerant values. This study used VIF to check whether the explanatory variables of the model suffer from Multicollinearity. The VIF in excess of 10 should be taken as an indication of harmful Multicollinearity (Neter, Wasserman & Kutner 1989, and Gujarati 2003), and the result of the test show that the maximum VIF is 1.75 and the minimum VIF is 1.00 and this is less than 10 which indicate absence of Multicollinearity

Table 2: Descriptive statistics

Variables	Observation	Mean	Std.dev	Min	Max
Mv	322	0.67439	0.24331	0.088	1.088
Ed	322	.24308	.05825	.15	.4
Roa	322	9.6461	.64543	8.464	10.823
Fs	322	15.871	1.6198	10.22	19.4
Fy	322	3.561	0.33688	2.56	3.97

Source: Output of summary statistics developed by research using STATA 14 (2025)

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Table 2, the mean return on asset score for the sampled manufacturing companies in Nigeria shows an average of 9.6%. This means that manufacturing companies return on asset have and average increase by 9.6% from net profits made with standard deviation of .64% indicates that there is significant variation on return on assets fixed assets between the sampled manufacturing companies during the period of the study with the minimum and maximum of 8 and 10% respectively. As indicated in the Table 2, environmental disclosure has mean 24%. An indication the sampled firm maintained an average of 24% of environmental disclosure which is below expectation, with minimum of 15% and maximum of 60%. The standard deviation 5%. It shows that there is no significant variation about the environmental disclosure of the sampled manufacturing companies. On the average, market value has a means 67% indicating that the firm value of the sampled companies accounted for 67% with maximum and minimum of 100% and 9% respectively. The standard deviation accounted for 24% which shows a no significant variation about the market value of listed manufacturing companies in Nigeria. The average of firm size is 15 billion naira with the standard deviation of 1 billion naira, this indicates high level of dispersion with minimum and maximum of 10 billion and 19 billion naira respectively. On the firm year, the mean is 3.5 with standard deviation of .33 indicate variation of firm age of sampled companies. The minimum and maximum firm ages were 2.5 and 3.9 respectively.

Table 3: Correlation matrix

	Mv	Ed	Roa	Fs	Fy
Mv	1.0000				
Ed	-0.1213	1.0000			
Roa	-0.1594	-0.5334	1.0000		
Fs	0.0214	-0.0501	0.0063	1.0000	
Fy	0.2970	-0.2564	-0.2083	0.0042	1.0000

Source: Correlation output developed by researcher using STATA 14 (2025)

Table 3 shows the correlation coefficients on the relationship between the dependent variable (MV) and explanatory variables environmental disclosures, stock turnover and return on asset). The values of the correlation coefficient range from -1 to 1. The sign of the correlation coefficient indicates the direction of the relationship (positive or negative), the absolute value of the correlation coefficient indicates the strength, with larger values indicating stronger relationships. The correlation coefficients on the main diagonal are 1.0, because each variable has a perfect positive linear relationship with itself. As shown in table 3, the relationship similarly, the relationship between environmental disclosures and return on asset, firm size and firm year are negative with the coefficients

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of -0.533, -0.0501 and -0.256 respectively. Except with coefficient between return on asset and firm year that is negative, other coefficient relationship are positive.

Table 4: Regression results. Random effect. Direct relationship

Mv	COEFF	STD. ERRORS	T VALUE	PROB
Ed	-1.178465	.444228	-2.65	0.008***
Roa	-.0941255	.043192	-2.18	0.029***
Fs	.0064898	.010184	0.64	0.524
Fy	.0645129	.086831	0.74	0.458
Intercept	1.536978	.654644	2.35	0.019***
Hausman	0.0712			
R Sq	35%			
LM	0.000			
Prob.	0.053			

Source: Regression output developed by researcher using STATA 11(2024). (*, **. ***, indicate significant levels at 10%, 5%, and 1* respectively).

Notes: The study tested panel data model description using a Hausman test, and a Lagrange multiplier (LM) test to select the most suitable model among fixed effect model (FEM) and random effect model (REM). Therefore, the panel data regression test found that the REM model is the most suitable model to interpret the results of Hausman (0.0712), (0.084) and LM (0.000) as shown in Table 4 and 5,

Table 5: Regression results. Random effect. Indirect relationship

Mv	COEF.	STD. ERR	T.VALUE	PROB.
Ed	-.876829	.47474	-1.85	0.065*
Roa	-.080115	.04327	-1.64	0.064*
Fs	.006428	.01012	0.64	0.525
Fy	.10410	.08687	1.20	0.231
Ins	.12679	.37091	0.34	0.750
Insed	-.518104	.32268	-1.91	0.051**
Intercept	1.2991	.56306	2.31	0.021***
R Sq	76			
Hausman	0.0841			
LM	0.000			
Prob	0.000			

Source: Regression output developed by researcher using STATA 11(2025). (*, **. ***, indicate significant levels at 10%, 5%, and 1* respectively).

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As shown in table 4 (P-value 0.008) between environmental disclosure and market value with t value of -2.65. This implies that the environmental disclosures have an impact on fixed to firm value and negatively inclined in the listed manufacturing companies in Nigeria. For this reason, environmental disclosures is considered to play a negative role in firm value because if there is any increase in environmental disclosure it will influence in the reduction in firm value of selected listed companies. This may be because of poor quality disclosures that lack transparency, and completeness can lead to negative market reaction. Incomplete or inconsistent disclosures can lead to skepticism about companies' commitment to environmental sustainability and trigger negative stock price reactions. Therefore, the hypothesis that there is a negative relationship between environmental disclosure and firm value in the listed manufacturing companies in Nigeria is supported. This is consistent with the findings of Teddy (2022) and Akin and Iredele (2214) clarkson, who found that environmental disclosure is negatively associated with firm value but reject the result of Huge (2000) and Clarkson (2023) whose result think otherwise. This study is in line with the cost concerned school of thought.

Similarly, in table 4, return on assets which represented control variable has a p-value of 0.029 with t-value of -2.18 is significant but also negatively inclined. Indicating that when there is an increase in environmental disclosure, the return on asset will tends to reduce which is in consistent with the earlier result.

In the moderating role of institutional shareholder, in figure 4 and 5 the R Square of the direct relationship is 35% while that of indirect relationship is 76%. Furthers, in table 5, the p-value of intervening variable with environmental disclosure and market value 0.051 while the t-value is -1.91. With this, the institutional shareholder influences the relationship between environmental disclosure and firm value there the study accepts the second hypothesis which says that, there is moderating effect of institutional ownership on the impact of environmental disclosures on firm value of listed manufacturing companies in Nigeria

Conclusions.

The study examines the impact of environmental disclosure on firm value of listed Nigeria manufacturing companies. The environment disclosure plays a very important role in any organization especial if the organization is involving in manufacturing of goods and it became essential for every business to disclose their environmental activities. For this reason, having a good and compliance disclosure board is considered obligatory in enhancing firm value in Nigeria listed manufacturing companies. The study seems to be the first empirical study that attempts to evaluate the impact of environmental disclosure on firm value in Nigeria using fixed institutional ownership as moderator.

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The study concluded that environmental disclosure is an effective tool that can help to know which direction the environmental disclosures will affect firm value in the Nigeria listed manufacturing companies. The study did not fail to acknowledge the role the return on asset played as control variable.

Practical implications

Practical implications of this study is that environmental issue is one of the problems any organization faces with the host community thereby endangering their operations and may leads to loss of revenue. Hence this study should be used as a way forward to encourage all listed firms to improve their environment disclosure because it now a mandatory to any companies to disclose their environmental activities in their annual report. The study's findings would have practical implications for corporations and other business organizations seeking to actively involve the manufacturing sector in their business models and successfully communicate these efforts to stakeholders.

The findings of the study could serve as a great contribution to managers of listed manufacturing companies in evaluating the current state of their environmental disclosure in light of the findings established by the study. The study will also serve as bases for future researches on this field.

Recommendation

Based on findings and conclusions, the study recommends that;

The management should make an improvement in their environmental disclosure because the study shows and average of 24% of environmental activities disclosed in the sector since more disclosure higher firm value.

The regulatory body, the National Environment Standard and regulations Enforcement Agency (NESREA) should developed and enforce on companies the environmental activities the companies should engaged in and report in their financial statement.

Limitations and future directions

The study is constrained for not considering all listed firms in the country. Furthermore, the study considered selected other method of measuring environmental disclosure such as average weighted method. Future studies should consider data from all listed firms in the country. In terms of the period covered by this study, however, further studies can go beyond 5 years as this study only considered 5 years. Future studies can also consider all listed firms listed on the floor of the NSE as part of their population.

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