Effect of Managerial and Institutional Ownership on Environmental Disclosure of Listed Manufacturing Firms in Nigeria

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Abstract

Corporate governance practices are essential ingredients in achieving and maintaining public trust and confidence in the corporate firm. The study examined managerial ownership and institutional ownership on environmental disclosure of listed manufacturing firm in Nigeria covering the period of ten (10) year 2013-2022. The study adopted ex-post facto research design and secondary data was used for analysis were obtained from Nigerian Exchange Group. Panel regression analysis technique was used to analyse the research data. The result revealed that managerial ownership has a positive and significant effect on environmental disclosure of manufacturing firm in Nigeria while inst23itutional ownership has a negative significant effect on environmental disclosure of manufacturing firm in Nigeria. The study therefore concludes that managerial ownership and institutional ownership has significant effect on environmental disclosure of manufacturing firm in Nigeria. The study recommend that management of manufacturing firm should increase managerial ownership share because it helps in increasing environmental disclosure of the firms in Nigeria

Keywords: Managerial Ownership, Institutional Ownership, Environmental Disclosure, Firm Age, Stakeholder

INTRODUCTION

Environmental disclosure also known as green reporting relates to the costing and disclosure of environmental occurrences and activities that relates to an organization at a particular period. It is focused on ongoing environmental monitoring and environmental data collection (Mohammed *et al*, 2021). Environmental disclosure (ED) communicates to the public whether the decision makers (the management) of companies are taking environmental issues seriously or not (Monica, 2005). Accounting and management concerns related to environmental and social impacts, legislation and controls, protection, environmentally sustainable, and commercially viable energy production and supply are all covered by environmental reporting (Atang & Eyisi 2020). Despite the increased focus on EDs in general, environmental disclosure continues to be voluntary on a global scale, with substantial variations in the quality and quantity of environmental data reported by businesses from different sectors and countries (Mohammed *et al*, 2021). The investing community wants to know which firms they can trust and, more importantly, which they should avoid based on their environmental responsiveness (Emeka-Nwokeji & Osisioma, 2019). In this century of global financial and economic crunch, increased sharp business practices, global warming, ozone depletion, and water scarcity, reporting to provide users with broad data about all firms' activities and uncertainties that they need to make correct judgments about a company is in the public interest. Thus, apparent resurging pandemics, economic recession and corporate scandals have led to the call for firms to focus not only on long term relationships which deal with checks and balances, incentives for managers and communications between management and investors but also on the transactional relationship, which involves dealing with disclosure and authority (Atang & Eyisi 2020). Emphasis is on providing a sustainable conducive environment for the human and corporate organisation to operate efficiently. The harsh economic situation in the country and uncertainty that followed the recent pandemic emphasized the need to regain the confidence of users of financial information.

Consequently, firms across the globe have been providing information on social performance. This is in response to the calls for firms to supplement regulatory efforts to lessen information asymmetry between company management and outside investors by disclosing relevant information in order to improve stakeholders' reporting (Mohammed *et al*, 2021). Thus, criticism of traditional reporting framework created opportunities for new reporting models and institutional innovations, causing growing numbers of organizations to disclose information on how their entities interact with local communities, employee and other stakeholders' (Emeka-Nwokeji *et al*, 2021). Most firms in developed economies and in some developing economies like South Africa now integrate these nonfinancial disclosures fully, rather than just including a small section containing additional information. Corporate governance practices are essential ingredients in achieving and maintaining public trust and confidence in the corporate firm. Corporate governance has attracted a good deal of public interest in recent years because of its apparent importance to the economic health of corporations and the society in general. Good corporate governance ensures accountability, transparency and fairness in reporting and it is not only concerned with corporate efficiency, it relates to a much wider range of company strategies and life cycle development. Sound corporate governance practices lead the economy towards the achievement of higher returns to the owners of the business and provide sources for capital increased investment by shareholders. The economic cum environmental challenges confronting the world at large and Nigeria in particular are enormous. Our environment is more threatened now than ever before as evidenced increased pollution, emission, degradation, deforestation and other climate change effect heading to high mortality rate as a relation of deadly diseases across globe (Abosede & Oluwatosin, 2021).

H_{01}: Managerial ownership has no significant effect on environmental disclosure of listed manufacturing firms in Nigeria

H_{02}: Institutional ownership has no significant effect on environmental disclosure of listed manufacturing firms in Nigeria

LITERATURE REVIEW

Conceptual Framework

Managerial Ownership

Managerial Ownership ordinarily represents the proportion of shares owned by the firm's directors to total number of shares issued. Warfield et al (1995) posited that corporations exhibit a myriad of manager- ownership structure extending from owner manager holding the vast majority of equity shares to professional managers whose ownership share is negligible. The separation of ownership and control begets questions of managers' incentives to take action in the best interest of owners. The extent of proportion of share held by management may affect control over the firms' decision (Jensen & Meckling, 1976). Rudiger and Rene (2007) in their study review theories of the determinants of managerial ownership and their implications for the relation between firm value and managerial ownership. They consider three theories: the agency theory, the contracting theory, and the managerial discretion theory. Rudiger and Rene (2007) assert that agency theory takes managerial ownership as given; greater managerial ownership aligns the interests of management better with the interests of shareholders. The contracting agency view portrays that shareholders face trade-off. As the managers stake in the firm increases, their incentives become better aligned with those of shareholders in that, if they increase firm value by one dollar, their wealth increases by a greater fraction of that dollar. Managerial ownership refers to an ownership fraction or stake in a firm that is held by managers. Managerial ownership is not only meant to increase the equity of the organization but also to serve as incentives to managers to align managers' interests with those of the interests of the organization. Managerial ownership refers to the percentage of shares owned by the executive directors of the companies or firms.

Institutional Ownership

This ordinarily represents the proportion of shares owned by institutions to total number of shares issued by a firm. Institutional investors are organizations which pool large sums of money and invest those sums in securities, real property and other investment assets. They can also include operating companies which decide to invest their profits to some degree in these types of assets (Joseph 2018). Typical investors include banks, insurance companies, retirement or pension funds, hedges funds, investment advisors and mutual funds. Their role in the economy is to act as highly specialized investors on behalf of others. For instance, an ordinary person will have a pension from his employer. The employer gives that person's pension contributions to a fund. The fund will buy shares in a company, or some other financial product. Funds are useful because they will hold a broad portfolio of investments in many companies. This spreads risk, so if one company fails, it will be only a small part of the whole fund investment. An institutional investor can have some influence in the management of corporations because it will be entitled to exercise

the voting rights in a company. Thus, it can actively engage in corporate governance. Furthermore, because institutional investors have the freedom to buy and sell shares, they can play a large part in which companies stay solvent, and which go under. Influencing the conduct of listed companies, and providing them with capital are all part of the job of investment management. Institutional ownership refers to an ownership fraction or stake in a firm that is held by large financial organizations, pension funds or endowments. Institutions generally purchase large blocks of a firm's outstanding shares and can exert considerable influence upon its management.

Environmental Disclosure

Environmental disclosure means that a firm is obligated by law to include environmental information in annual reports, either voluntarily or statutorily. Environmental disclosure also communicates relevant information to stakeholders and society as a whole as a result of the company's actions as they influence the environment. According to Aliyu (2018), environmental disclosure is information that is presented to analyze a company's environmental conduct and the economic consequences of that activity. It includes both financial and non-financial information. Environmental disclosure is defined by Alhassan (2018) as a set of information about a company's past, current, and future environmental operations. Environmental disclosure, according to Al-Duais *et al*, (2021). is a declaration that demonstrates a company's environmental efforts, such as the company's aims, environmental policies, and environmental consequences, which are documented and publicized annually to the general public. Environmental disclosure, according to Alabdullah *et al*, (2019), aids corporations in capturing public opinion of their operations. Because of the importance of the environment and the devastating impact of companies' activities on the environment, environmental disclosure serves as a medium of communication between the company and stakeholders. Disclosure is required because of the importance of the environment and the devastating impact of companies' activities on the environment (Ahmed & Simon 2020)

Environmental Reporting Index

Environmental reporting index is a concept that refers to the measurement and evaluation of the quality and comprehensiveness of environmental reporting by organizations, it aims to assess and rank the level of transparency and disclosure of environmental information in corporate sustainability reports, annual reports, and other relevant publications (GRI, 2021). According to Sustainability Accounting Standards Board (2021), the purpose of an environmental reporting index is to promote accountability, transparency, and sustainable practices by encouraging organizations to disclose their environmental impacts, risks, and performance. By providing a standardized framework for evaluating and comparing environmental reporting practices, it enables stakeholders such as investors, regulators, and the public to make informed decisions and assessments about an organization's environmental practices and commitments.

Firm Age

Firm age is defined as the number of years of incorporation of the company (Shumway, 2001). In line with legitimacy theory, for a company to carry out business activities in a community depends on the acceptance of the society where they operate. As is obvious, businesses can be impacted by society and also have an impact on society. Hence, legitimacy theory is deemed to be an important resource determining organizational survival (Alabdullah *et al*, 2019). Based on this, aged firms with longer societal existence may have taken relatively more legitimacy and may have gained more goodwill and involvement of societal responsibility than newly incorporated firms. Generally, aged firms disclose more information than new ones. In other words, companies quoted on the stock exchange have enough experiences to disclose vital information considering the reaction of market for appropriate disclosure. Some studies have reported that level of disclosure of quoted companies significantly influence their capital market listing status. In addition, previous research works support the significant relationship between age of firm and environmental information disclosure (Alsaeed, 2006). In line with the above discussion, it is expected that the age of a firm on the stock exchange may influence the disclosure of environmental information. In this study, firm age will be considered as company listing age at the Nigerian Exchange Group (NGX).

Empirical Review

Mohammed *et al* (2021), examine the environmental accountability of listed Nigerian oil and gas companies 2005 to 2019. To test for the influence of managerial ownership and other corporate variables, Panel Corrected Standard Error Regression Analysis (PCSERA) was employed while vulnerability and exploitability analytical framework is used as guide in the research. Results from the study revealed that sampled companies are devoting few words for environmental disclosure while regression analyses revealed that managerial ownership and size are statistically

significant in explaining environmental disclosure by the sampled companies. However, Profitability is significant but negatively related with disclosure by sampled companies. Overall, vulnerability and exploitability analytical framework is found useful in explaining the disclosure practices of sampled companies. The study recommend that policy makers in the companies should pay attention to environmental accountability which may perhaps bring about peaceful operations in the industry. Similarly, policy makers in the industry may choose to regulate environmental as mechanism of ensuring environmental accountability in the industry. Aderemi *et al* (2021), examine effect of corporate governance mechanism on sustainable growth of manufacturing firms in Nigeria. The population of the study consists of listed manufacturing companies, and a sample size of 30 manufacturing firms was selected using a purposive sampling technique based on convenience, covering a time period of five financial years (2011 to 2020). A regression method was used to analyse the data collected through the secondary sources. The result showed that board size, board composition, ownership concentration, board independence, and firm size had a positive relationship with corporate sustainable growth, while leverage had a negative relationship with corporate sustainable growth. Thus, the study showed that corporate governance exercises a positive influence on corporate sustainable growth. The study recommended that listed manufacturing firms put in place a larger board structure that encompasses people of different backgrounds, skills, and experience in order to help the companies move forward during difficult times and a good board structure that makes provision for the presence of independent directors needs to be maintained to checkmate the management so that all the decisions taken by the management will be the ones to achieve the company's ultimate goal.

Abosede and Oluwatosin (2021), examine impact of firm characteristics and sustainability reporting practice of listed manufacturing firms in Nigeria. The study is supported by stakeholders' theory. Data was collected from secondary sources, mainly from annual reports and accounts, environmental reports and corporate websites. Data analysis was carried out using regression model. The findings revealed that firm size and asset tangibility have positive significant influence on sustainability reporting. Ownership structure has positive influence on sustainability reporting and growth have positive insignificant effect on sustainability reporting while board size and firm profitability have negative influence on sustainability reporting. The study recommends that firm characteristics with positive outcomes used in this study should be heavily invested upon and recommended for others by the regulating agencies of government in view of the role they played in ensuring that managers act responsibly towards people (social), profit (economic) and planet (environment) by preparing sustainable financial reports. Adaobi and Nestor (2021), ascertained the relationship between corporate governance and carbon disclosure practices of quoted manufacturing firms in Nigeria from 2011-2020. Specifically, this study aimed to ascertain the relationship between ownership concentration, board gender diversity, sustainability committee and carbon emission disclosure of eighteen (18) quoted manufacturing firms in Nigeria. This study employed expo facto research design. Pearson coefficient correlation and Panel Least Square (PLS) regression analysis were employed via E-View 10 statistical software. The study found that ownership concentration, board gender diversity and sustainability committee have a significant positive relationship with carbon emission disclosure of quoted manufacturing firms in Nigeria at 5% level of significance respectively. It was recommended amongst others that firms should constitute sustainability committee in order to maximize shareholders' wealth and gain competitive advantage.

Olayinka and Owolabi (2021), effect of corporate governance dimensions on environmental sustainability reporting of manufacturing companies in Nigeria. The study adopted ex-post facto research design. The population of the study comprised 169 quoted companies on the Nigerian Stock Exchange (NSE) as at December 31, 2018. Samples of 42 quoted companies were selected through stratified and purposive sampling techniques for the period of 10years (2010-2019). Data were sourced from published audited annual report and accounts of the sample companies. Data were analyzed using descriptive and inferential statistics. The findings revealed that corporate governance had positive and significant effect on environmental sustainability reporting (ENSR) of selected quoted companies in Nigeria. The study concluded that corporate governance has a significant effect on environmental sustainability reporting in quoted companies in Nigeria. The study recommended that shareholders should include more female and independent directors on board, as a greater proportion of female directors will boost environmental sustainability reporting. Also, consideration for board membership should not be based on share ownership and the role of chairman and CEO should be separated. Atang and Eyisi (2020) determinants of environmental disclosures of listed manufacturing firms in Nigeria. The data for the study was gotten from a sample of 22 listed firms in the industrial sector. Ex post facto research design is adopted for the study and multiple regressions is used in analyzing the data gotten. Descriptive and inferential statistics were used to generalize the results and conclude the findings. The result showed a beta value 0.018 for cost of sales. This mean an increase in the profitability of manufacturing firms will lead to a 1.8% increase in the environmental disclosure of the company. The result also revealed that board composition influences about 13% of the variation in the environmental disclosure of manufacturing firms in Nigeria. While on the other hand auditor

enterprise and its multiple stakeholders". The stakeholders can be divided into two groups, the internal group consists of the employees, managers and the owners while the external group includes customers, suppliers and the community, the relation between the firm and those stakeholders group is controlled by different types of rules (Chintrakarn *et al,* 2021)

METHODOLOGY

This study adopted the ex post facto research design and secondary data for the study. Population of the study consists of fifty five (55) listed manufacturing firms operating on the Nigeria, Nigeria Exchange Group (NGX) as at 31st December 2022. The sample size is forty (40) and purposive sampling techniques was adopted. Data required for this study were obtained from audited financial statements and annual reports of the listed manufacturing firms in Nigeria 12 years (2013-2022). The inferential analyses also involve the application of the appropriate statistical technique of Panel Regression Analysis: this is due to the nature of the data. The study adapting the model of Muhammed *et al* (2021),

Panel regression model

$$ED = \beta_0 + \beta_1 MO + IO\beta_2 + \beta_3 FA + \epsilon_{it} \quad \text{.......} \quad (3.1)$$

Where:

β_0 = The autonomous parameter estimate (Intercept or constant term)
$\beta_1 - \beta_3$ = Parameter coefficient of ownership structure
ED = Environmental Disclosure
MO = Managerial Ownership
IO = Institutional Ownership
FA = Firm Age
ϵ_{it} = Stochastic Error term

RESULT AND DISCUSSION

Descriptive Statistics

Descriptive statistics gives a presentation of the mean, maximum and minimum values of variables applied together with their standard deviations obtainable. The table below shows the descriptive statistics for the variables applied in the study.

Table 4.1: Descriptive Statistics Result

	ER	MO	IO	FA
Mean	0.384318	0.032100	0.033975	36.27000
Median	0.333333	0.030000	0.030000	37.00000
Maximum	1.000000	0.090000	0.060000	80.00000
Minimum	0.083333	0.010000	0.020000	2.000000
Std. Dev.	0.211401	0.021052	0.008981	18.73552
Skewness	0.772469	0.948385	0.464722	0.125286
Kurtosis	2.764074	3.123572	2.969148	2.162435
Jarque-Bera	40.70823	60.21671	14.41363	12.73837
Probability	0.000000	0.000000	0.000742	0.001714
Sum	153.7270	12.84000	13.59000	14508.00
Sum Sq. Dev.	17.83153	0.176836	0.032180	140056.8
Observations	400	400	400	400

Source: E-View 12 Output, (2023)

Table 4.1 presents the descriptive statistics of the managerial ownership, institutional ownership and environmental reporting of listed manufacturing firms in Nigeria during the period of 2013 to 2022. The table shows that environmental reporting (ER) as a measure of environmental disclosure has a mean of 0.3843, with a standard deviation of 0.21140 as well as a minimum value of 0.08333 and maximum value of 1.0000 respectively. Given that the range between the minimum and maximum is not quite wide, it implies a stable environmental disclosure as the standard deviation indicated that there is no much slightly wide dispersion of the data from the mean value. For the other measure of managerial ownership and institutional ownership shows a mean of value of 0.03210 and 0.03397 with standard deviation of 0.02105, 0.00898 and a minimum and maximum value of 0.01000, 0.02000, 0.09000 and

0.06000 respectively. This implies managerial ownership and institutional ownership witnessed a marginal increase during the study period, as the standard deviation is not so large compared to the mean, together with the low range between the minimum and maximum values. Skewness which measures the shape of the distribution and equally shows the measure of the symmetry of the data set, indicated that all the variables of the study; ER, MO and IO are positively skewed and have values greater than zero which suggests that the distribution tails to the right-hand side of the mean, while no variable of the study is positively skewed, as none have values less than zero.

Table 4.2: Correlation Matrix

The correlation matrix table presents correlation relationship between dependent and independent variables and the correlation among the independent variables themselves.
Covariance Analysis: Ordinary
Date: 05/25/23 Time: 11:50
Sample: 2013 2022
Included observations: 400

Correlation Probability	ER	MO	IO	FA
ER	1.000000			

MO	0.057240	1.000000		
	0.2534	-----		
IO	0.003395	0.071067	1.000000	
	0.9460	0.1560	-----	
FA	-0.021202	0.096033	0.133326	1.000000
	0.6725	0.0550	0.0076	-----

Source: E-View 12 Output, (2023)

In table 4.2 correlation analysis, which is used to quantify the association between two continuous variables (e.g., between an independent and a dependent variable or between two independent variables). In correlation analysis, we estimate a sample correlation coefficient, more specifically the Pearson Product Moment correlation coefficient. The sign of the correlation coefficient indicates the direction of the association. The magnitude of the correlation coefficient indicates the strength of the association. The result presented above confirms that managerial ownership, and institutional ownership has a positive correlation which are 0.0572 and 0.0033 with environmental reporting while firm age as control variable has a negative correlation with environmental reporting.

Multicollinearity Test (VIF)

The Multicollinearity test was carried out to check if there is strong correlation among the independent variables that may produce misleading result. The low magnitude of the correlations among the independent variables is an indication that multicollinearity may not be a problem for the sampled dataset.

Table 4.3: Multicollinearity Test (VIF)

Variance Inflation Factors
Date: 05/25/23 Time: 11:59
Sample: 2013 2022
Included observations: 400

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.002101	18.73568	NA
MO	0.256875	3.373541	1.012841
IO	1.423887	15.68062	1.021661

FA	3.29E-07	4.880591	1.025963

Source: E-View 12 Output (2023)

***Decision rule**: Centred VIF of less than 10 is an indication of absence of multi-collinearity, while the centred VIF of more than 10 is an indication of presence of multi-collinearity. As stated above, the decision rule for the multicollinearity test using the variance inflation factor is that Centred VIF of less than 10 shows the absence of multi-collinearity, while the centred VIF of more than 10 is an indication of presence of multi-collinearity. Table above clearly shows that there is absence of multicollinearity among the independent variables, given that all the independent variable (MO, IO and FA) have a center VIF that is less than 10.

Heteroskedasticity Test

In order to validate the robustness of the estimates, the Heteroskedasticity test was conducted as a diagnostic check. Heteroskedasticity happens when the standard errors of a variable, monitored over a specific amount of time, are non-constant.

Table 4.4: Heteroskedasticity Test
Panel Cross-section Heteroskedasticity LR Test
Null hypothesis: Residuals are homoscedastic
Equation: UNTITLED
Specification: ER C MO IO FA

	Value	df	Probability
Likelihood ratio	133.1356	40	0.0000

LR test summary:

	Value	df
Restricted LogL	55.32612	396
Unrestricted LogL	121.8939	396

Source: E-View 12 Output, (2023).
Table 4.4 shows the results of the panel cross-section Heteroskedasticity regression test. The decision rule for the panel cross-section Heteroskedasticity test is stated thus:

***Decision Rule: At 5% level of Significance**

H_0: No conditional Heteroskedasticity (Residuals are homoskedastic)
H_1: There is conditional Heteroskedasticity

The null hypothesis of the test states that there is no Heteroskedasticity, while the alternate hypothesis states that there is Heteroskedasticity. The null hypothesis is to be accepted if the P value is greater than 5% level of significance. From the result in table 4.4 above with a ratio value of 133.1356 and a corresponding probability value of 0.0000 which is less than 5%, the study therefore posits that, there is reason to reject the null hypothesis, while the alternative hypothesis that states there is conditional Heteroskedasticity problem is accepted. Consequently, based on the diagnostic probability 0.0000 the null hypothesis is rejected, thus there is conditional heteroskedasticity, indicating that residuals are not homoskedastic and as such the samples does not give a true reflection of the population. This is corrected by logging dependent variable as independent variable to correct the present of heteroscedasticity

Hausman Test

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

type contributes only 5.6% of the changes in the environmental disclosure of the manufacturing firms in Nigeria. It is therefore concluded that profitability, auditor type, board composition and firm size jointly influences the environmental disclosure of manufacturing firms in Nigeria. It is recommended that the regulatory bodies should initiate policies that will make the disclosure of environmental information compulsory in Nigeria. Also, the external auditors should also persuade their clients to disclose information relating to the environment as this has an impact on their reputation. Aluwong and Fodio (2019), investigates the influence of corporate attributes on environmental disclosure by oil companies in Nigeria. The study uses secondary data collected from the annual reports and accounts of 9 randomly selected oil companies for the period 2011 to 2017. The study analysed the data using the logistic regression technique. The study finds that corporate attributes significantly affect the environmental accounting disclosure by oil companies in Nigeria. Based on the findings, the study concludes financial leverage has a significant positive effect on environmental accounting disclosure by oil companies in Nigeria. Second, profitability has a significant positive effect on environmental accounting disclosure by oil companies in Nigeria. Third, the study also find that firm size has a significant positive effect on environmental accounting disclosure. Fourth, the study finds a positive but insignificant effect of auditor types on the environmental accounting disclosure by oil companies in Nigeria. The study recommends that the regulators of the oil companies in Nigeria should encourage the use of more debts in the oil companies' capital structure, which will make them disclose more information about the environment based on the close monitoring and demand by the debt holders.

Theoretical Framework

Agency Theory

Agency theory is defined by (Jensen and Meckling 1976) as the theory that addresses the relationship where in a contract the principal engages another person called the agent to perform some service on their behalf which involves delegating some decision making authority to the agent. Agency problem occurs when the objectives of the principal and agent contradict and it is difficult and costly for the principal to detect what the agent is actually doing. Also, due to this separation of ownership, managers usually focus on their own personal gains and interests and forget about the shareholder's interest which ultimately leads to the agency problem as well as incurring costs that the owners bare at the end, and this is referred to the agency cost. It is added by (Jensen & Meckling 1976) that these contradictions are because of the inability of the shareholders to monitor the actions and the performance of the management.

Information Asymmetry Theory

The effects of information asymmetries have important implications for the decision makers. The main concept of the information asymmetry theory goes back to 1970 that was introduced by (Akerlof) in a paper with a title: "The Market for "Lemons": Quality Uncertainty and the Market Mechanism "that develops asymmetric information with the example case of automobile market the basic argument is that in many markets the buyer uses certain statistics to measure the value of the goods. Thus the buyer sees the average of the whole market while the seller has more intimate knowledge and information. Akerlof argues that this information asymmetry gives the seller an incentive to sell goods of less than the average market quality and so this creates the information asymmetry problem. Based on this example, Information asymmetry theory can be referred to as the disproportionate amount of information that two different parties have during the transaction, and the theory is based on the fact that the party that has more information might behave opportunistically and choose what kind information to provide to a second party and what information to hide (Eriabie & Odia 2016).

Stakeholders Theory

Stakeholder theory was developed by Freeman (1984) who argued that organizations are accountable to the shareholders as well as other stakeholders which in contrary to the traditional view that shareholders were the only stakeholders of the firm. Stakeholders are groups of individuals who may benefit or be harmed by activities of the firm. These stakeholders have contracting interest which have to be taken into account when releasing the audit reports. This is important because their varying interests can affect the firm's ability to achieve its objectives (Freeman, 1984). The stakeholder theory is defined by (Freeman 1984) as any group or individual who can influence or is influenced by the achievement of the organization's objectives. So (Carroll 1993) add that the term stakeholder may, therefore, include a large group of participants, in fact anyone who has a direct or indirect stake in the business. Examples for direct stakeholders are the shareholders, employees, investors, customers and suppliers, all whose interests are aligned with the interests of the firm, on the other side, the indirect stakeholders are those who are indirectly affected by the functions of the firm and an example for the is the government (Kiel & Nicholson 2003). Another definition for the stakeholder theory is that "the Stakeholder theory defines organizations as multilateral agreements between the

Table 4.5: Hausman Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	13.858460	3	0.0031

Source: E-View 12 Output, (2023)

The Result of Hausman test shows that chi-square statistics value is 13.8584 while the probability values of it is 0.0031. This implies that there is enough evidence to accept the null hypothesis which states that fixed effect is most appropriate for the Panel Regression analysis. It thus stands that error component model (Random effect) estimator is not most appropriate because the random effects are not well correlated with the regressors. Thus, the most consistent and efficient estimation for the study is the fixed effect cross-sectional model. Consequently, the result suggests that the fixed effect regression model is most appropriate for the sampled data because the Hausman test statistics as represented by corresponding probability value is less than 5%.

Fixed Effect Likelihood Ratio Test

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

Table 4.6: Fixed Effect Likelihood Ratio Table

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	5.940900	(39,357)	0.0000
Cross-section Chi-square	200.069054	39	0.0000

Source: E-View 12 Output (2023)

The Result of fixed effect likelihood ratio test shows that chi-square statistics value is 200.0690 while the probability values of is 0.0000. This implies that there is enough evidence to reject the null hypothesis which states that pooled effect is most appropriate for the Panel Regression analysis. It thus stands that error component model (pooled effect) estimator is not appropriate because the pooled effects are probably correlated with one or more regressors. Thus, the most consistent and efficient estimation for the study, given the options of a pooled effect analysis and a fixed effect analysis, is the fixed effect model of regression analysis. Consequently, the result suggests that the fixed effect regression model is most appropriate for the sampled data (given the two options as encapsulated above), because the likelihood ratio test statistics as represented by corresponding probability value is less than 5%.

Table 4.7: Panel Regression Result (Fixed Effect)

Dependent Variable: ER
Method: Panel Least Squares
Date: 05/25/23 Time: 12:09
Sample: 2013 2022
Periods included: 10
Cross-sections included: 40

Total panel (balanced) observations: 400

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.932930	0.039409	23.67322	0.0000
MO	-0.086073	0.164539	-0.523115	0.0412
IO	-0.197659	0.348474	-0.567213	0.5709
FA	-0.004372	0.001011	-4.322604	0.0000
LOGER	0.341393	0.006321	54.00607	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.934297	Mean dependent var	0.384318
Adjusted R-squared	0.926361	S.D. dependent var	0.211401
S.E. of regression	0.057367	Akaike info criterion	-2.775230
Sum squared resid	1.171585	Schwarz criterion	-2.336168
Log likelihood	599.0459	Hannan-Quinn criter.	-2.601356
F-statistic	117.7284	Durbin-Watson stat	1.724690
Prob(F-statistic)	0.000000		

Source: E-View 12 Output, (2023)

This study examined managerial ownership, institutional ownership and environmental disclosure of listed manufacturing firms in Nigeria. From table 4.8 above, the coefficient of multiple determinations (R^2) is 0.93 and in line with the panel nature of the data used in this study, the regression model shows that the range of values between adjusted R^2 and R^2 falls between 93%, and 92% respectively. This indicates that about 93% of the total variations in environmental reporting (ER) is explained by the variations in the independent variables (MO, IO and FA), while the remaining 7% of the variation in the model is captured by the error term, which further indicates that the line of best fit is highly fitted. The panel regression result for the sampled manufacturing firm as presented in table 4.8 above showed that there is a negative relationship between foreign ownership and environmental reporting with a corresponding positive probability value of 0.0412 which is less than 5%. There is negative relationship between institutional ownership with probability value of 0.5709 which is greater than 5%. However, when taken collectively, the regressors (MO and IO) against the regressed (ER), the value of F-statistic is 117.7284 and the value of the probability of F-statistic is 0.00000. This result implies that the overall regression is both positive and statistically significant at 5%.

Discussion of Findings

This study assessed of managerial ownership, institutional ownership and environmental disclosure of listed manufacturing firms in Nigeria. The findings of this study is on the basis of formulated hypotheses, models and analysis carried out. This study found that generally, managerial ownership have a significant effect on environmental reporting of listed manufacturing firm in Nigeria. But institutional ownership have a negative effect on environmental reporting and the findings from this study are compared with that of previous studies. Firstly, assessment of managerial ownership and environmental disclosure of listed manufacturing firm in Nigeria revealed that a positive have significant on environmental reporting of listed manufacturing firm in Nigeria, The findings do agree with the findings of Abosede & Oluwatosin (2021) and Muhammed *et al* (2021) who documented evidence of a positive relationship between managerial ownership and environmental disclosure of oil and gas sector. Secondly, investigation on effect of institutional ownership and environmental disclosure of listed manufacturing firm in Nigeria revealed that institutional ownership has a negative significant effect on environmental reporting of listed manufacturing firm in Nigeria. The result agrees to the findings of Aderemi *et al* (2021), who found a negative association between institutional ownership and environmental disclosure of firms but the work of Aluwong & Fodio (2019) agree with this result because they found positive result in their study.

CONCLUSION AND RECOMMENDATIONS

The study was undertaken to examine the managerial ownership, institutional ownership and environmental disclosure of listed manufacturing firms in Nigeria from 2013-2022 in Nigeria. The study conclude that managerial ownership

and institutional ownership has significant effect on environmental disclosure of manufacturing firm in Nigeria. Based on the findings of this study and the conclusion made, the following recommendations are made to management of manufacturing firm in Nigeria;

i. Management of manufacturing firm should increase managerial ownership share because it helps in increasing environmental disclosure of the firms in Nigeria.
ii. Management of manufacturing firms should maintain or not increase institutional ownership participation in the firm as a result is insignificant on the environmental disclosure of the firm in Nigeria.

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