



Effect of Ownership Structure on Environmental Disclosure of Listed Consumer Goods Companies in Nigeria

Abubakar Garba Razaq¹, Jacob Ame², Ismaila Olotu Abdullahi³,
H. S. Abubakar⁴

¹ Department of Accounting, Nasarawa State University, Keffi

² Department of Accounting, Nasarawa State University, Keffi

³ Department of Accounting, Nasarawa State University, Keffi

⁴ Department of Accounting, Nasarawa State University, Keffi

Abstract

The insufficiency of financial statements to meet both financial and non-financial needs of various stakeholders has created the vacuum of information asymmetry, thereby raising agency costs of connected interest groups in firms. Ownership structure, to some extent, has narrowed the gap of information asymmetry, posing a new challenge that owners might comprise their environmental disclosure responsibility. This study examines effect of ownership structure on environmental disclosure of listed consumer goods companies in Nigeria. The study measures ownership structures with institutional, managerial, foreign and ownership concentration as independent variables, while environmental disclosure, as a dependent variable is measured with the extent of the environmental disclosures in annual reports and financial statements of listed consumer goods companies based on GRI environmental disclosure criteria. The study adopts ex post facto research design relying on secondary collected from the population, consumer goods companies listed on the Nigerian Stock Exchange for the period 2011-2020. The study used multiple regression analysis to test the hypotheses with the aid of E-views 9. The results of the regression analysis show that institutional investment has a positive and statistically significant effect on environmental disclosures. On the other hand, managerial ownership has a negative and statistically significant effect on environmental disclosures of listed consumer goods companies in Nigeria. However, other independent variables are found to be insignificant to the extent of environmental disclosure. The study concluded that the ownership structure is an important corporate attribute for predicting the level of environmental disclosures of firms. Hence, it is recommended that Government and relevant regulatory agencies should consider a review of ownership structure of listed firms in Nigeria to be robustly composed to cater for diverse interests of various stakeholder groups.

Keywords: *Environmental Disclosure, Managerial Ownership, Ownership Concentration, Institutional Ownership and Foreign Ownership, Consumer Goods Companies in Nigeria.*

1.0 Introduction

The conventional accounting practice is normatively predicated on the protection of overriding interests of the owners of business, the wealthy capital providers. The ownership mindset is clearly demonstrated in the contents of financial statements, which serves as a bastion of accountability and stewardship. However, the insufficiency of financial statements to meet both financial and non-financial needs of various stakeholders has created the vacuum of information asymmetric among the various interest groups and stakeholders with connected interests in the organization. Over the years, there has been clamouring from stakeholders for enhanced accountability and disclosures about the operations of corporate organizations.

The financial performance objective of firms with its obsessed profit maximization mantra is misleading. This is because, a business as an open system interacts with the environment from where it obtains inputs for processing into goods and services in its day-to-day operations. Therefore, the environment is positively or negatively impacted by these activities. Thus, expectations that long-term profitability should go hand-in-hand with the protection of the environment are gaining grounds. Often, firms have been challenged to account for their activities and impacts they exert on the environment. So, profit maximization mantra is not sufficient to satisfy the needs of various stakeholders in the business world.

In that context, social and environmental disclosure has emerged as an effective tool that enables firms to communicate their environmentally friendly activities and as an important information source about the environmental impacts of firms' operations for their stakeholders (Chowdhury, Dey & Abedin, 2020). Omoye and Wilson-Oshilin (2018) opined that many stakeholders, such

as customers, governments and regulatory bodies, non-governmental organizations, local communities, investors, financial agencies and institutions, employees and society alike, have paid great attention to the negative environmental impacts of firms, i.e., emissions of greenhouse gases (GHGs), ozone-depleting substances and industrial toxic waste disposals. Consequently, an increasing number of firms all over the world have started to disclose social and environmental information, making environmental information disclosure and protection an important dimension of good corporate governance principles and financial reporting process (Chowdhury, Dey & Abedin, 2020; Yusuf, Fodio & Nwala, 2018; Brammer & Pavelin, 2006).

Ownership structure of a company plays a pivotal role in corporate climate strategy-making and environmental-friendly decisions. While the bar can be raised very high in some instances, there is also tendency that firms might compromise social and environmental policies and disclosures to minimize the agency cost (Juhmani, 2017; Gray & Nowland, 2015). A robustly composed ownership structure basically consists of proper mechanisms that allow stakeholders to exercise control over management, aiming at creating an optimum balance among different economic groups for transparency (Utomo, Wahyudi & Muharam, 2017; Sharif & Rashid 2014). Ownership structure of a firm affects decision making which in turn has influence on the success of the organization.

Ownership structure involves a variety of both endogenous and exogenous corporate governance mechanisms that are put in place to mitigate this agency problem by effectively monitoring managers and consequently reducing the agency cost (Mgammal, 2017; Jizi, Salama, Dixon & Stratling, 2014). For instance, internal governance mechanism presumed that, when

the managers of a company also form part of the equity investors, it makes the managers to act in the best interest of the shareholders. While for external governance device, the existence of large shareholders is good for governance, because large shareholders play a more active role in monitoring and disciplining managers than small shareholders. In the same vein, institutional ownership is good for governance, since institutional investors have stronger incentives and more resources to discipline managers than small individual investors.

The agency problems concerning managers and investors could be lower in family firms. This is because in family firms, the family usually owns a significant portion of the firm's equity and often maintains control over the management. To Emmanuel, Uwuigbe, Teddy, Tolulope & Eyitomi (2018); Mgamal (2017); Akrouit and Othman (2016), in a firm with diffuse ownership structure and low level of a managerial shareholding, the managers might try to present the operating result of the firm in the most favourable manner possible to avoid shareholder unrest, or to lessen the probability of takeover attempts. In contrast, in a firm with more concentrated ownership, the managers do not need earnings manipulation as a job-preserving strategy, because the owners possess control of the firm (Almaida, Santos, Cabral, Santos & Pessoa, 2015). Therefore, less earnings manipulation, or higher earnings quality could be expected in family-owned firms, relative to firms with diffuse ownership structure. Conferring to Utomo, Wahyudi and Muharam (2017), concentrated ownership also reduces the attention toward stock market fluctuations in the short term and lowers market pressures caused by meeting or beating analyst forecasts. As the managers' incentives to report accounting information that deviates from the underlying economic performance is reduced, financial

reporting quality of firms with concentrated ownership should therefore increase (Habtoor, Hassan & Aljaaidi, 2019).

Another major corporate attribute that is widely investigated in the environmental disclosure literature is managerial ownership. In a market without agency problem, corporate managers will choose investments that maximize the wealth of shareholders as a result of ownership which favours the management (Acar, Cahyurt & Yasemin, 2020). This goal congruence issue in the pursuit of corporate objective may be played down when the ownership structure is diluted. In practice, where management and ownership separate, competing objectives incompatible with shareholders wealth maximizing paradigm may be pursued (Habtoor, Hassan & Aljaaidi, 2019). In a similar vein, EY (2021), Nguyen and Nguyen (2020) and Aluwong and Fodio (2019) observed that jurisdictions have varying legal constructs governing corporate disclosures as well as legal liabilities precepts either imposed by regulators or desirable from various Exchanges' listing rules. Thus, a foreign ownership may bear positively on the environmental disclosure quality because of the high standard of environmental disclosure of the foreign investors transferred from their countries of origin either imposed by the regulators or set as a standard among their peers and competitors.

There is a plethora of studies in the sphere of ownership structure and environmental disclosures; however, findings are diverse, inconsistent and inconclusive with respect to positive, negative and significant impacts of results, thereby necessitating further investigations. The objective of this study therefore is to examine the effect of ownership structure on the environmental disclosure quality of listed consumer goods companies in Nigeria and it hypothesized that ownership structure attributes have no significant effect on environmental

disclosure quality of listed consumer goods companies in Nigeria.

The rest of this paper is organized as follows: Section 2 reviews the literature and present theoretical frameworks underpinning the study. Section 3 discusses the research methodology. Section 4 discusses the results. Finally, conclusions and recommendations are covered in Section 5.

2.0 Literature Review

Concept of Environmental Disclosure

Evidence from the review of extant literature has shown that there is a plethora of definitions and concepts of environmental disclosures. A call for companies' environmental impact assessment and disclosure has assumed enormous dimensions over the decades. This clarion call aimed at providing a sustainable environment that will be conducive to the human and corporate organizations to operate efficiently (Elshabasy, 2017; Votsi, Kallimanis&Pantis, 2017; and Trireksani&Djajadikerta (2016). Environmental Disclosure is a means through which a company reports its environmental activities to the stakeholders (Hendri & Puteri, 2015). Through environmental disclosure, firms project their corporate governance effectiveness in promoting sustainability, accountability, and transparency (Egbunike&Tarilaiye, 2017; Akrouit& Othman (2016); Ajibodade&Uwuigbe, 2013). The environmental issues and their care are modern topics. This is despite the many legislations and organizations that demand and are committed to preserving the environment. However, this is not enough unless community members realize the importance of the environment and protect it. Therefore, it is incumbent on society to work and contribute to changing the environmental behavior of individuals and organizations and

to raise awareness of environmental problems (Ayasrah, 2018).

Darwish (2009) defined environmental disclosure as a set of information items related to the performance and activities of the environmental management of the company and its past, present, and future financial implications. Previous studies have also indicated an increased number of companies that disclose environmental information in their annual financial reports to achieve the desires of investors and other stakeholders. Therefore, this led to an increase in the content of the disclosure of environmental information from a paragraph in the annual report to the preparation of independent environmental reports published by companies on their websites or in printed paper. This disclosure takes many of the descriptive forms such as data, quantitative facts, figures, and notes about the financial statements.

Nabulsi (2011) pointed that the economic, social developments and the emergence of international markets have played an important role in increasing the importance of disclosure and expansion especially after the accounting information has become a major source of decisions for customers in these markets. In addition, it also helps the owners and other parties such as consumers, investors, consumer protection agencies, the environment, and public opinion in making decision. However, this is because these parties have reciprocal relations with the organization, which placed accountability on the satisfaction of the needs of these parties and to meet their requirements. Hence, this forms a basis for its decision making.

Ghuslan and Saleh (2019) stated that disclosure as a relative concept achieves many advantages for investors, creditors, project management, and other beneficiaries. It aims at rationalizing the decision-making process and benefiting from the efficient use

of resources, thus improving the welfare of the national economy in general. The facilities that perform their duty towards the environment leads to the development of the activities of these enterprises. In contrast, increase the pressure on companies that do not perform their duty towards the environment, which leads to reduce the activity and bears the burden of remedying damage caused by environmental pollution.

Institutional ownership

Institutional ownership are shares owned by other organizations or institutions such as insurance companies, banks, investment companies and other organized owners. Institutional ownership is important in monitoring management because with institutional ownership it will encourage more optimal supervision. Jensen and Meckling (1976) claimed that institutional ownership has a very significant role in minimizing agency conflicts between managers and shareholders. The existence of institutional ownership is considered capable of being an effective monitoring device in any decision taken by the manager.

Managerial Ownership

Managerial ownership signifies the interest of managers in the equity shareholding of a firm. The motive behind the rise of this corporate governance variable is rooted in the agency theory, which assumes that manager's equity holdings inspire them to act in a way that maximizes the value of the firm. Warfield, Wild and Wild (1995) suggest that the interest of both shareholders and management start to converge as the management holds a portion of the firm's equity ownership. This implies that the need for intense monitoring by the board should decrease (Jensen and Meckling, 1976). Rudiger and Rene (2007) in their study reviewed theories of the determining factor of managerial ownership and their insinuations for the relation between firm

value and managerial ownership. They deliberate three notions: the agency notion, the contracting notion, and the managerial discretion notion. Agency idea predicts that low managerial ownership indicates poor alignment interest among managers and shareholders (Jensen & Meckling, 1976). The convergence assumption states that managerial ownership will be seen as monitoring device when they acquire some portion of the company equity, they will prevent manager's opportunistic behavior, and the magnitude of discretionary accruals is predicted to be negatively associated with insider ownership (Warfield, Wild & Wild (1995).

Ownership Concentration

Ownership concentration is an amount of the existence of large block holders in a firm (Thomsen & Pedersen, 2000). Usually, a stockholder who holds 5% or more of a company equity is reflected a major stockholder. The shareholding of an owner should be significant enough to provide for monitoring the action of the management. The major shareholder can be an individual, a domestic foreign corporation, an institutional investor and or the state. Large block holders have greater incentive to monitor management as the costs involved in monitoring is less than the benefits to large equity holdings in the firm. Akrouf and Othman (2016) pointed out that increased ownership concentration provides large block holders with sufficient incentives to monitor managers. Demsetz and Lehn (1985) and Stiglitz (1985) found that large block holders have the incentive to bear fixed cost of collecting information and to engage in monitoring mechanisms. In contrast dispersed ownership leads to weaker management monitoring. That is in a situation where the shareholders hold lower stock in a firm the incentive to monitor management is low because the costs involved in monitoring outweigh the benefits

to be derived. Therefore, Thomsen and Pedersen (1999) as cited in Wen (2010) defined ownership concentration as the share of the largest owner and are influenced by absolute risk and monitoring costs. Composition of Ownership of a firm is one of the main dimensions of corporate governance and is widely seen to be a determining factor in ascertaining good corporate performance as well as ensuring qualitative financial reporting.

Foreign Ownership

Foreign ownership is the total number of shares of a company held by foreigners. With the continuation of economic and financial liberalization in the world, the participation by foreign investors in the local market has increased over the years, as discussed and shown in a large amount of literature. Many countries open their capital markets and allow foreign investors to participate for some purposes such as to increase the supply of capital, reduce the cost of capital and finance economic growth (Bekaert & Harvey, 2000; Bekaert & Harvey, 2001; Ramaswamy & Li, 2001), and thus also, ensure liquidity and efficiency of these markets (Bekaert & Harvey, 2000). In addition, Stulz (1999) and Doidge, Karolyi, and Stulz (2004) provide evidence that foreign investors play a potential monitoring role and provide emerging market firms with the tools and incentives to improve corporate governance.

Empirical Review

Yusuf, Fodio and Nwala (2018) examined the effect of voluntary disclosure of listed financial firms in Nigeria between 2008 and 2017, relying on secondary data obtained from Nigerian Stock Exchange. The study found that block ownership has a positive and significant effect on voluntary disclosures, whereas institutional and managerial disclosures have insignificant effect on voluntary disclosures. The study presented a

new insight into the emerging issues of voluntary disclosures. However, the study was conducted in 2017, an update will provide the current perspectives since 2017 when the study was conducted.

Ali and Isa (2018) investigated the impact of ownership structure attributes on corporate social responsibility disclosures, based on exploratory review of literature in Nigeria. The study found that managerial ownership, institutional ownership and blocking holding have influence on firms' corporate social responsibility (CSR) disclosure. The study is rich in corporate attributes variables, the study revealed inconsistent results of both positive and negative impact, necessitating a need for further studies to validate the study in a greater depth.

Malik, Ahsan, and Khan (2017) studied the impact of ownership structure on corporate social responsibility in the companies listed in Pakistan Stock Exchange for a period of 10 years from 2005 – 2014. The study consisted of a population of 100 companies out of which a population sample of 71 companies were selected. Panel data was collected and result of Hausman test conducted, favoured fixed effect model. The study found that all ownership variables, except for government ownership have significant relationship with CSR. It was found that institutional individuals and foreign ownership have positive impact on CSR, whereas managerial ownership has a negative impact on CSR. The study's data was collated in 2014. An update will reveal the recent development in this area.

Mgammal (2017) investigated the effect of ownership structure on voluntary disclosure of non-financial firms listed in Saudi Arabia for the year 2009, utilising multiple regression model. The population of the study consists of 89 companies listed on the Saudi Stock exchange as at 2009. Relying on secondary data, the study collected data from

annual reports of the sampled companies. The study proxied ownership structure with managerial ownership, government ownership, and family ownership) on voluntary disclosure. The study found that all the independent variables have a positive effect on voluntary disclosure. However, the study was limited to 2009 when the data was collected. This study therefore presents a more current information in terms data and country validation as this study is carried out in Nigeria.

Angelstig and Gustavsson (2016) studied the impact of ownership structure on the sustainability reporting assurance practices in Sweden, using logistic regression with a sample of listed firms in NASDAQ Stockholm in the financial year of 2013. The study sought to determine factors that influence the choice of sustainability reporting assurance and the study revealed that a positive relationship between the sustainability reporting and ownership structure. This indicated that a higher level of institutional ownership increases the propensity of environmental and sustainability disclosure level of firms. The study used several firms listed on NASDAQ, however, the study covered only a period of one year. This period is considered too short to study the longitudinal effect of the relationship between the variables.

Haladu and Salim (2016) examined the relationship that subsisted between environmental information disclosure and ownership structure of firms listed on the Nigerian Stock Exchange using the GRI G4 latest version of methodology. The study found that a significant relationship exists between environmental information disclosures and ownership structure. The study population cut across various industries listed on the Nigerian Stock Exchange from Agriculture, Construction/Real Estates, Healthcare, Industrial Goods, Natural Sciences and Oil and Gas. The result of the

findings of the study, however, are inconsistent as some ownership structure variables are positively significant, while others have inverse correlation to sustainability reporting and disclosure.

Theoretical Framework

Agency Theory

Agency theory connection is defined as a contract under which one or more persons (the principal) engage another person (the agent) to perform some service on their behalf that involves delegating some decision-making authority. As propounded by Jensen and Meckling (1976), the theory essentially describes the relationship between two parties: owner as a principal and management as an agent. The theory states that the separation of ownership from control of the modern-day business has turned the relationship between the owners (shareholders) and controllers (managers) to that of an agent and a principal. As such the managers are supposed to treat this fiduciary link with ultimate sense of transparency and accountability. However, in practice, the existence of information asymmetry that gives the managers a privilege information may lead to the breach of the agency arrangement as the managers are tempted to use their positions for self enhancement, hence the agency problem. Similarly, Fama and Jensen (1983) advocate that agency problems that arise from the separation of ownership and control could be reduced if the residual claimants (shareholders) and the decision agents (managers) in a firm are the same. This is because, the interests of shareholders and managers are closely aligned.

Legitimacy Theory

Legitimacy theory is derived from the concept of organizational legitimacy. The theory was propounded by Dowling and

Pfeffer in 1975. It grants an organization the right to carry out its operations in an agreement with society's interests. Hence organizations seek to operate within the norms and aspirations of their respective communities. When there is a disparity between two value systems, there is a threat to the company's legitimacy. The argument surrounding legitimacy theory is that companies can only survive if they are operating within the framework of the society's norms and values. Greiling and Grüb (2014) stress that an organization must be accountable for its actions. Legitimacy theory is perceived as a possible reason for the recent rapid increase in environmental disclosure as corporate entities strive to be greenish in their operations (Braam, Hauck & Huijbregts, 2016; Prasad, Mishra & Kalro, 2016; Almada, Santos, Cabral, Santos & Pessoa, 2015). Corporate disclosures represent a response to environmental pressures and the urge to legitimate their existence and actions. Companies disclose social and environmental information voluntarily to maintain their legitimacy. They aim to obtain the impression of the society that they are socially responsible. This reality of this perception lies in the strict adherence to the rule of law, and investors and citizen's right to a healthy environment enshrined in the Constitution.

Stakeholder Theory

Stakeholder theory is also considered as an explainable theory for corporate environmental accounting (Deegan & Blomquist, 2006; Depoers, Jeanjean & Jérôme, 2016). Propounded by Edward Freeman in 1984, stakeholder theory involves the recognition and identification of the relationship existing between the company's behaviours and its impact on its stakeholders. The stakeholder theory perspective takes cognizance of the environment of the firm, including customers, suppliers, employees,

and other segments of the society. As a result of this relationship, the company requires support from the stakeholders to survive. The connection must be managed if the company considers the stakeholders important. One of the ways of maintaining that relationship is by providing information through voluntary social and environmental disclosures to gain support and approval of these stakeholders. These stakeholders of the enterprise and lobbying decisions of these individuals are determined by the stakeholders who possess power, urgency, and legitimacy (Ahmad, 2015).

The two theories described above are related and relevant theories to this research work (i.e. legitimacy and stakeholders' theories). While the investors and shareholders have every right and legitimacy to profit for risks taken by putting together other factors of production such as Land, Capital and Money in line with Legitimacy theory, however, this should be realized without usurping the rights of other stakeholders. Stakeholders' theory recognizes the individual rights of all stakeholders in the community and that each and every one can benefit without hurting one another. This study therefore anchors on the legitimacy and stakeholders' theories.

3.0 Methodology

The study adopts a descriptive ex-post facto regression design relying on secondary data obtained from the population of the study. The population of this study comprises all the 21 consumer goods companies listed on the Nigerian Stock Exchange as at 2019, using stratified and purposive sampling techniques based on the population's industries. However, through filtering process of data availability and ease of results comparability from the population, 16 of the companies were taken as sample size. The data was collected from the annual reports and financial statements of the sampled

companies for a period of ten (10) years (2011 to 2020).

The study employs multiple regression technique as the technique of analysis with aid of E-views statistical tool for analysis. The data for the study is panel in nature and to check for endogeneity, the study used the Hausman specification test. Additional diagnostics tests adopted in this study includes the test for Multicollinearity using the Tolerance and Variance Inflation Factor (VIF), and the Breusch-Pagan test for heteroscedasticity to check for the fitness of model and reliability of findings.

The regression model used for this study is presented in the equation below:

$$ED_{it} = \beta_0 + \beta_1 OC_{it} + \beta_2 IO_{it} + \beta_3 MO_{it} + \beta_4 FO_{it} + \epsilon_{it} \quad (1)$$

This equation can be rewritten econometrically as;

$$ED_{it} = \beta_0 + \beta_1 OC_{it} + \beta_2 IO_{it} + \beta_3 MO_{it} + \beta_4 FO_{it} + \epsilon_{it} \quad (2)$$

Where:

ED= Environmental Disclosure, MO= Managerial Ownership, OC= Ownership Concentration, IO= Institutional Ownership, FO= Foreign Ownership, β_0 = intercept (constant), i = cross-sectional time, t =time series, ϵ = Error term

Measurement of Variables

Environmental Disclosure: The extent of environmental disclosure based on Global Reporting Initiative (GRI) G4 environmental disclosure criteria. 1 = Companies that disclose environmental information in their

annual report; otherwise for non-disclosure, =0.

Managerial Ownership: The percentage of shareholding of directors and their immediate families in an accounting year

Ownership Concentration: The percentage of largest shareholding from individual shareholders

Institutional Ownership: Proportion of shareholding by institutional investors in the company

Foreign Ownership: The percentage of shareholding from foreign investors in the company

4.0 Result and Discussions

This section presented the data and discussed the results of the analyses and interpretations. The descriptive statistics and other univariate test results are first presented and interpreted. Thereafter, the results of the panel data were analyzed, as well as those of correlation matrices and diagnostic tests were presented and interpreted as well. Inferences derivable from these results, as reflected in the reviewed literature, were discussed after the tests of the hypotheses earlier formulated by the study.

Descriptive Statistics

This section contained the description of the properties of the variables ranging from the mean of each variable, minimum, maximum and standard deviation. The summary of the descriptive statistics of the variables were presented in table 2 below.

Table 1: Descriptive Statistics

	ED	OC	IO	MO	FO
Mean	0.374326	0.595829	0.192749	0.081837	0.276664
Maximum	1	0.861000	0.701000	0.385000	0.933318
Minimum	0	0.110000	0.092000	0.001000	0.000000
Std. Dev.	0.523270	0.187974	0.081108	0.082963	0.324653
Observations	160	160	160	160	160

Source: E-views output, 2021.

The descriptive statistics in Table 4.1 indicates that the measure of extent of environmental and social disclosure quality of consumer goods firms has an average value of 0.374326 with standard deviation of 0.523270, a minimum and maximum values of 0 and 1 respectively. This indicates that the deviation between companies is very large hence, there are differences in the disclosure levels of sampled consumer goods companies. The table one shows that ownership concentration (OC) has a mean value of 0.595829 and a corresponding standard deviation of 0.187974. This shows that 59% of the firms under study have concentrated ownership. However, the value of the standard deviation which is far from the means is an indication disagreement with this outcome. It shows that that data is not clustered around the mean. The Table also indicates that the sampled firms have an average institutional ownership (IO) of 0.192749 with standard deviation of 0.081108 respectively. This means that on average 19% of companies have institutional shareholders. The figure of the standard deviation shows that there is a high level of agreement in the outcome. The minimum and the maximum as shown by the table is 0.092000 and 0.701000. This implies that the

minimum is 9% while the maximum is 70% respectively.

The descriptive statistics from Table 4.1 also indicates that the mean of managerial ownership (MO) is 0.081837 which signifies that on the average it can be said that approximately 8% of the firms have managerial shareholders. The managerial shareholding shows a minimum and maximum of 0.001000 and 0.385000 respectively. The descriptive statistics in Table 4.1 shows that on average, foreign ownership among the sampled firms during the period of the study stood at 27%, from the mean value of 0.276664 with standard deviation of 0.324653. This shows that on average 32% of consumer goods companies have foreign owners. The value of the standard deviation which is closer to mean serves as a confirmation to the reliability of this outcome. The value for minimum and maximum is 0.000000 and 0.933318 respectively.

Correlation Matrix

A correlation matrix is a table showing correlation coefficients between variables. Each cell in the table shows the level of association between two variables.

Table 2: Correlation Matrix

	ED	OC	IO	MO	FO
ED	1.000000				
OC	0.016136	1.000000			
IO	0.205961	0.083083	1.000000		
MO	0.007450	-0.214542	0.500285	1.000000	
FO	0.010557	0.012671	0.201457	0.024121	1.000000

Source: E-views output, 2021.

Table 2 shows the correlation between the dependent variable, environmental disclosure quality and the independent variables, ownership concentration, institutional ownership, managerial ownership and foreign ownership. Generally, high correlation is expected between dependent and independent variables while low correlation is expected among independent variables. According to Gujarati (2004), a correlation coefficient between two independent variables 0.80 is considered excessive and thus certain measures are required to correct that anomaly in the data. From Table 2, it is observed that the variables

correlate fairly well below 0.80 (between -0.21 and 0.50).

Regression Diagnostics Tests

The following regression diagnostic tests were carried out to find out whether data used for analysis were reliable.

Test for Multicollinearity

Non-existence of Multicollinearity is a key assumption of linear regression analysis. Multicollinearity occurs when the explanatory variables are not independent of each other. Multicollinearity is examined using tolerance and variance inflation factor (VIF) values. The result of Multicollinearity test is shown in the table below.

Table 3: Tolerance and VIF Values

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
OC	29.62052	12.33218	1.109960
IO	216.1512	10.07814	1.508033
MO	1.002247	1.518592	1.485650
FO	4.038261	1.474212	1.065613
C	24.95941	26.63654	NA

E-views output, 2021.

Based on the evidence presented in Table 3, it can be concluded that there is no Multicollinearity problem. This is because the VIF values for all the variables are less than 10 and the tolerance values for all the

variables are greater than 0.10 (rule of thumb) (Gujirati, 2004).

Test for Heteroscedasticity

Heteroscedasticity arises when the error terms along the regression are not equal. Heteroscedasticity was tested using Breusch Pagan's Test. Based on the results, it can be concluded that there is no problem of heteroscedasticity as the chi square is 12.67, with a corresponding probability of 0.14584 which is insignificant, implying absence of heteroscedasticity.

Hausman Speciation Test

In panel data analysis (the analysis of data over time), the Hausman Test can help to choose which between [fixed effects model](#) or a random effects model is appropriate for interpretation.

Table 4: Hausman Speciation 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	18.087970	6	0.0060

The Hausman Speciation Test is conducted to choose between the fixed and random effect model. The result of the Hausman Test revealed that the value of chi2 is

18.087970 and the prob>chi 0.0060. The significant value as reported by the probability of chi2 indicates that the Hausman Test is in favour of fixed effect model.

Table 5: Fixed Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OC	2.414808	10.30303	0.234378	0.8150
IO	90.96059	24.61331	3.695585	0.0003
MO	-3.135503	1.242641	-2.523257	0.0128
FO	-2.538845	2.670799	-0.950594	0.3435
C	10.25912	9.909722	1.035259	0.3024

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.294015	Mean dependent var	1.011000
Adjusted R-squared	0.186583	S.D. dependent var	12.55642
S.E. of regression	11.32459	Akaike info criterion	7.818910
Sum squared resid	17698.00	Schwarz criterion	8.241747
Log likelihood	-603.5128	Hannan-Quinn criter.	7.990609
F-statistic	2.736744	Durbin-Watson stat	1.329376
Prob(F-statistic)	0.000247		

Source: Eviews Output, 2021.

The R-square value shows the level at which the explanatory variables explain the dependent variable. Table 5 reveals that the R-square is 0.294015. This means that the ownership structure variables in the study explain environmental disclosure quality to the tune of 29%. The value of F - statistic is 2.736744 with probability of chi2 = 0.000247. The probability of chi2 is significant at 5%, indicating that the model is fit. This serves as substantial evidence to conclude that the ownership structure variables selected are suitable for the study.

Based on the explanatory variables, the result indicates that ownership concentration has a coefficient of 2.414808, a t-value of 0.234378 and a p-value of 0.8150. This suggests that ownership concentration has a positive coefficient with environmental disclosure of consumer goods firms in Nigeria. However, the p-value shows that this is insignificant at 5% level of confidence implying that ownership concentration cannot be used to predict the environmental disclosure.

The regression result shows that institutional ownership has a t-value of 3.695585, a coefficient of 90.96059 and a p-value of 0.0003 which is significant at 5%. This means that institutional ownership has a significant positive relationship with environmental disclosure of listed consumer goods firms in Nigeria. The 5% significance level reveals that institutional ownership promotes and supports firms' propensity for environmental disclosure in the consumer goods firms in Nigeria. The finding above agrees with Ali and Isa (2018), Malik, Ahsan, and Khan (2017); Mgammal (2017) and Angelstig and Gustavsson (2016).

Furthermore, the regression result shows that managerial ownership has a significant negative effect on the share price volatility of

listed consumer goods firms in Nigeria, from the coefficient of -3.135503 and a p-value of 0.0128 which is statistically significant at 5% level of confidence. The result statistically shows that managerial ownership is necessary factor in improving the quality of environmental disclosure of listed consumer goods firms in Nigeria. This is because from the finding, it has preponderance of compromising the environmental disclosure required of firms due to agency problem as encapsulated in Jensen and Meckling (1976).

Finally, the result shows contrary to expectation that foreign ownership has an insignificant negative effect on environmental disclosure of sampled consumer goods firms in Nigeria, from the coefficient of -2.538845 and a p-value of 0.3435 which is statistically insignificant at 5% level of significance. This result suggests that the presence of foreign ownership insignificantly decreases environmental disclosure in the area covered by the study.

5.0 Conclusion

This study examined the effect of ownership structure on the extent of environmental disclosure of consumer goods companies listed on the Nigerian Stock Exchange from 2010 to 2019. The dependent variable of the study, the extent of environmental disclosure, is measured by the 1 = Companies that disclose environmental information in their annual report 0 = Otherwise. On the other hand, in the light of previous literature, four ownership structure dimensions were considered as independent variables that may have a relationship with the extent of environmental reporting of companies, namely, ownership concentration, managerial ownership, institutional ownership and foreign ownership.

The findings of the study revealed that for ownership structures considered in the study, institutional ownership and managerial ownership have a statistically significant effect on the extent of environmental disclosure, hence it is concluded that this structure have strong explanatory power on the extent of environmental disclosure.

On the other hand, the result provided statistical evidence ownership concentration and foreign ownership have no significant effect on environmental disclosure of listed consumer goods companies in Nigeria. The study, therefore, concluded that ownership concentration and foreign ownership are necessary factors to be considered in predicting the level of environmental disclosure of consumer goods companies in Nigeria.

Recommendations

The following recommendations were forwarded:

It is recommended that Government and relevant regulatory agencies should consider review of ownership structure of listed firms in Nigeria to be robustly composed to cater for diverse interests of various stakeholder groups.

It is also recommended that the Nigerian companies should consider encouraging higher level of institutional shareholding, since they have the resources to influence management towards improving corporate disclosure and consequently reducing information asymmetry, which not only clarifies the conflicts of interests between shareholders and management but also makes management more accountable.

Also, companies should particularly allot a portion of their shareholding to management since they are at the fore front of encouraging companies to key into the sustainability

reporting framework in order to meet expectations of the various stakeholders on their demand for voluntary information disclosure and bridge the gap in information asymmetries.

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