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EFFECT OF BOARD CHARACTERISTICS AND OWNERSHIP STRUCTURE ON SUSTAINABILITY REPORTING OF LISTED CONSUMER GOODS COMPANIES IN NIGERIA

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Abstract

The study examined the effect of board characteristics and ownership structure on sustainability reporting from 2011 to 2020. Board characteristics is measured by board independent, board size and board gender diversity while ownership structure was measured by managerial ownership and institutional ownership and sustainability reporting is measured by the disclosure content of the item required in the annual report such as financial and non-financial information of the companies. This study adopted ex-post facto research designs and panel multiple regression was used for the analysis. The study found that all four firm attributes (board independent, board size, board gender diversity and institutional ownership) have significant effect on sustainability reporting while managerial ownership has no significant effect on sustainability reporting of listed consumer goods firms in Nigeria. The study recommends that small board size is to be encouraged in sampled consumer goods firms. However, we recommend that the maximum size of the board should be 8 members whilst the small board should consist of 5 members on the board. Also, women directors should be in certain strategic positions on the board, there should be at least two and four for small and big board respectively since the percentage women directors has a positive influence on sustainability reporting.

Keywords: Board characteristics, ownership structure, sustainability reporting

Introduction

The quality of sustainability reporting contained in the annual reports, the principal source of information, is nowadays the heart of financial modern problems. Firms are confronted to serious crisis of trust and they cannot think about the efficiency of their financial communication. Thus, transparency and a better disclosure make the stakeholders of the firm better informed. This will lead to a better capital allocation in the securities market. The forces that have caused an increase in the demand for information disclosure in the current capital market stem from the information asymmetry and agency conflicts existing between stockholders and management. Therefore, the solution to agency conflicts lies in the function of the board of directors and the ownership structure. Currently, every organization, whether it is private or public, small or big, non-profitable or profitable, is looking to convince investors, customers, suppliers, creditors, regulators and the public at large about their work. They are trying to work in a way that makes all those stakeholders or users appreciate them. One way for these organizations to improve their performance is by making public their responsibility towards the environment. There is growing pressure on firms to be responsible to society, which has influenced them to work in an environmentally responsible manner.

In recent years, the negative environmental impact of economic development has become a matter of public concern in different parts of the world. After noting the many risks that have affected the environment as a result of the tremendous development in the field of industrial technological which led to increased demand for sustainability reporting for companies, considering that sustainability reporting is a tool to provide information to stakeholders and to reflect the environmental performance of companies and concerns about various environmental issues. Furthermore, it helps to increasing the confidence in the information provided to stakeholders and to achieving the desired environmental consensus as well as, it helps in strengthening the competitive position of companies by adopting productive policies in line with the expectations of society and the needs of consumers to produce and use environmentally friendly products. As a result, companies become complementary to society in addressing these environmental issues (Rifai, 2012). However, despite an increased interest in sustainability reporting in general, sustainability reporting is still voluntary on an international scale. Where, there are significant differences in the quality and quantity of sustainability reporting by companies from various industries and countries (Htay, Rashid, Adnan & Meera, 2012).

According to agency theory, the company is responsible for the decision to disclose environmental information to serve the interests of shareholders (Buniamin, Alrazi, Johari & Rahman, 2011). However, Rouf (2011) argues that these reports do not usually serve the user's needs because managers are likely to think about their own interests when exercising administrative judgment, thereby increasing the disclosure gap, i.e., the difference between expected disclosure and actual disclosure. Therefore, the decision to provide or not to provide certain information is likely to depend on a variety of factors, such as the characteristics of corporate governance (Htay, Rashid, Adnan & Meera, 2012). Said, Zainuddin and Haron (2009) argued that the factors contributing to increased sustainability reporting in developing countries are the characteristics of corporate governance. As suggested in prior research, the board is an effective internal governance mechanism in monitoring management in the interests of shareholders. The board's monitoring role encompasses financial reporting, and since the sustainability reporting to some extent comes under the discretion of the board of directors, we expect that a more effective board should result in higher levels of disclosure by management.

While Prior research on the relationship between Board Characteristics and sustainability reporting has been done in the developed countries such as Mejda and Hakim (2016), Wang (2016), Ozigi, Mohd Said and Mat Daud (2017), Aman and Ismail (2017), Lyubenova (2019), Khafid, Baroroh, Tusyanah and Tyas (2020). A few studies have been made to examined this relationship in the emerging countries particularly in Nigeria vis a vis consumer goods company in Nigeria. As such, the focus of the study is to acquire an understanding of whether the corporate board mechanisms, namely board independence, board size, board gender diversity, managerial ownership and institutional ownership are effective on the extent of sustainability reporting amongst Nigerian consumer goods firms listed on Nigeria Stock Exchange. This study also provides additional evidence that supports or rejects prior research findings in the developed countries and to determine whether the findings can be generalized in Nigerian market.

The following hypotheses were tested:

HO1: Board independence has no significant effect on sustainability reporting of quoted consumer goods companies in Nigeria.

HO2: Board size has no significant effect on sustainability reporting of quoted consumer goods companies in Nigeria.

HO3: Board gender diversity has no significant effect on sustainability reporting of quoted consumer goods companies in Nigeria.

HO4: Managerial ownership has no significant effect on sustainability reporting of quoted consumer goods companies in Nigeria.

HO5: Institutional ownership has no significant effect on sustainability reporting of quoted consumer goods companies in Nigeria.

Literature Review

Concept of Board Characteristics and Ownership Structure

Board Independence

The board of director's independence is one of the important aspects of board effectiveness. From an agency perspective, it is argued that board independence will be more valuable because of their capabilities in checking and monitoring managers and thus reducing agency problem (Fama & Jensen, 1983). Several studies present evidence suggesting that effective governance with board independence improve firm performance (Agrawal & Knoeber, 1996), while the dominance of non-executive directors (in terms of numbers) could provide them with more power to force management to improve the quality of firm disclosure (Haniffa & Cooke, 2002). Chen and Jaggi (2000) provide evidence that suggests a positive relationship between the proportion of Independent directors and disclosure. Cheng and Courtenay (2006) provided further evidence that firms with a higher proportion of independent directors have significantly higher levels of sustainability reporting than firms with balanced boards. In addition, Huafang and Jianguo (2007) examine the association between board independence and environmental disclosure and show that an increase in independent directors increases corporate environmental disclosure. Hence, previous empirical findings seem to suggest that as proportion of outside directors' increases, firms are more likely to provide sustainability reporting.

Board size

Existing literature on board size can be classified into two categories. One is in favor of large boards whereas other advocate smaller boards. The advocates of larger boards believed that large boards are inefficient as they are week in control of management and increase the agency cost. However, this notion is defying by stating that larger boards may less influenced by management. Small boards are deemed efficient but they may have influenced by managers. Moreover, it is observed that large boards are diverse with reference to the education, expertise and gender of directors (Laksmana, 2008). Akhtaruddin et al. (2009) stated that the size of the board has significant impacts in controlling, monitoring and information disclosure. This may lead to conclude that the size of the board does a matter in the firm. Based on the agency theory, larger companies need larger boards to control and monitor the management actions. This means that the size of the firm is an influential factor that determines the board of directors' size. This viewpoint has been empirically supported by many authors.

Board gender diversity

The extensive contribution of women in all the activities around the world has noticeably increased. As a result, women existence in the boardroom cannot be disregard in this era. Agency theory suggests that board diversity enhance the board independence (Carter et al., 2007) and board gender is considered as one of the diversity variables in the previous studies. Having women in the board has some benefits such as embedding diversity (Fernando, 2007) and enhancing the opportunity to achieving the competitive advantage (Mattis, 2000). However, Webb (2004) and Bernardi and Threadgill (2011) found that the firms with female directors are more socially responsible in the US. Zhang et al. (2013) found evidence that more female directors in the board enhanced the corporate social performance. Mallin and Michelon (2011) found that better corporate citizens have greater proportion of female directors in their boardrooms. Having women in the boards may be considered as the consciousness signal of the firms about issues related to minorities and women and thus ensures the citizenship of the firms (Soares, Carter & Combopiano, 2009).

Managerial Ownership

Managerial ownership (MOWN) is the ratio of shares owned by CEOs and executives, and this includes their deemed interests. Also, ownership plays an important role in raising the agency problem and so control might be mitigated as a result of increasing the MOWN in order for their interest to be taken into account with those of other stakeholders. Thus, when the MOWN falls, external shareholders will more frequently check the behaviour of managers (Jensen & Mecklin 1976). To decrease the expense of observing by external shareholders, the manager will supply SR. Thus, SR is an option to observing. Additionally, a study by McKinnon and Dalimunthe (1993), discovered a significant relationship between ownership structure in expanded Australian companies and sustainability reporting. Moreover, an increase in MOWN leads to a decrease in agency cost. Therefore, the information disclosure demand to screen managers would be decreased.

Institutional ownership

The presence of institutional investors was considered to be an effective monitoring mechanism in any decision taken by the manager, because it is the institutional professionals who have the ability to evaluate the performance of companies, ranging from informal discussions with management, to control all operations and corporate decision-making. Institutional ownership will oversee the decisions taken by management and oversee the implementation of the company in advance. This opinion is supported by the results of research conducted by Kumar (2004) and Rachmawati and Hanung (2007), which provides evidence that stock ownership by institutional ownership has positive effects on firm value because the large institutional will have a greater incentive to monitor managers of the board members, who may have little or no wealth invested in the company. Institutional investors vote more actively than other owners and even more active in opposing proposals that would harm shareholders.

Concept of Sustainability Reporting

Global Reporting Initiative as Sustainability Report's disclosure guidelines defines Sustainability Report as a practice that measures and disclose corporate activities, as a responsibility to internal and external stakeholders on organizational performance in realize sustainable development goals. According to Global Reporting Initiative (2011), Sustainability Reporting is the practice of measuring, disclosing and being accountable to internal and external stakeholders for organizational performance towards the goals of sustainable development.

Schaltegger (2004) defined Sustainability Reporting as a subset of accounting and reporting that deals with activities, methods and systems to record, analyse and report, firstly, environmentally and socially induced financial impacts and secondly, ecological and social impacts of a defined economic system (example, a company, production site, and nation). Thirdly, Sustainability Reporting deals with the measurement, analysis and communication of interactions and links between social, environmental and economic issues constituting the three dimensions of sustainability. According to Parliament of Australia (2010), Sustainability Reporting involves companies and organizations demonstrating their corporate responsibility through measuring and publicly reporting on their economic, social and environmental performance and impacts.

Gnanaweera and Kunori (2018) defined sustainability reporting as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Companies report its sustainability performance by voluntarily generated sustainability reports. By using such reports, they try to inform their stakeholders regarding the environmental, governance and social aspects of their activities, which aims to reduce informational asymmetries among the company and its interested parties (Brammer, 2006). Due to the voluntary nature of the sustainability reporting, companies willing to disclose only good news and they hide bad sustainability practices which disable the ability of stakeholders to analyse the current sustainability performance of the company.

Furthermore, Dow Jones sustainability index in KPMG (2008) looks at Sustainability Reporting as a business approach that creates long term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social developments. Corporate sustainability leaders achieve long term shareholder value by gearing their strategies and management to harness the market’s potential for sustainability products and services while at the same time successfully reducing and avoiding sustainability cost and risks.

Empirical Review

Mejda and Hakim (2016) determined the association of ownership structure with the environmental disclosure of listed companies in the Middle Eastern and North African (MENA) emerging markets. A self-constructed environmental disclosure score based on the framework of the Global Reporting Initiative (GRI) was used. Investigating a sample of 347 annual reports, were calculated, the score for listed companies pertaining to 10 MENA countries. The results revealed that the majority of companies in their study provide a separate section for environmental issues on their annual reports. In addition, multivariate analysis shows that there is a negative association between family ownership and environmental disclosures.

Matta (2017) examined the association between ownership structure variables and level of corporate environmental disclosure in the annual reports and standalone sustainability reports of 313 non-financial companies listed in Bombay Stock Exchange, India. Ownership structure is provided by ownership held by promoter group, government, foreign ownership, and institutional investors. The levels of environmental disclosure are measured using the Wiseman scale. The results show that the extent of corporate environmental disclosure has a significant positive association with government ownership and institutional ownership. The results also highlight the fact that promoter ownership and foreign ownership concentration has no significant influence on the level of environmental disclosure. Some of the control variables (size, industry and profitability) have a significant effect on level of environmental disclosures. Leverage of a firm is not significantly associated with sustainability reporting.

Lyubenova (2019) examined the impact of determinant such as profitability, leverage, size, company visibility and foreign ownership on the level of CSR disclosure of Bulgarian listed companies in Bulgarian using Ordinary Least Squares (OLS) regression. The empirical results show that profitability has a significant positive impact on the level CSR disclosure of Bulgarian listed firms. In addition, some support is found for a positive and significant relationship of debt, size and foreign ownership with CSR or its subtypes social or environmental disclosure. Contrary to expectations, the regression results do not provide support for company visibility as a determinant of CSR disclosure.

Bello and Kamaru (2017) investigated the determinants of sustainability disclosure practice in Nigeria from 2010-2015. Board size, board independence, board diversity and board meetings were considered as determinants of sustainability disclosure. The sustainability disclosure index and board governance measures were computed for estimation of the regression analysis. A multiple regression analysis was used to test the relationships specified in the study. From the regression analysis, board size, board independence and board diversity were found to enhance the disclosure of sustainability information. However, board meeting was found to be insignificantly related to sustainability disclosure. The OLS procedure of data analysis employed by the study is limited on the basis of the fact that it does not allow heteroscedasticity test, fixed and random effect and related robustness tests.

Bandara, Shasanka, Edirisinghe, Dissanayake and Rathnasiri (2018) investigates the relationship between corporate governance and level of sustainability reporting of Sri Lankan listed companies. Corporate governance was measured in terms of board independence, board size, dual leadership, female directorship, availability of CSR committee and cross directorship. The level of sustainability reporting was assessed in terms of GRI G4 guidelines. The study used regression analysis to study the relationship between the two. It was found that there is a significant association between proportionate of independent directors, role duality and availability of CSR committee with the voluntarily practiced sustainability reporting disclosures. The study further suggests that sustainability reporting is also positively influenced by firm size and growth and younger firms are likely to disclose more sustainability disclosures.

Mohammad (2016) examined the relationship amongst some of the corporate governance mechanisms on social responsibility disclosure in Iran for the period of 2009 to 2014. The study used panel data and is tested based on generalized regression method. The results show a positive significant relationship between board size and social responsibility disclosure.

Juhmani (2013) examined the association between ownership structure variables and the level of voluntary information disclosures of firms listed on the Bahrain Stock Exchange. Bahrain-listed companies show that there is negative a significant negative relationship between block holder ownership and sustainability reporting.

Theoretical Framework

Agency Theory

The demand for audit of companies' accounts is created by the agency problems which are related to the separation of corporate ownership from control (Eilifsen & Messier, 2000; Gerayli, Yanesari &Maatoofi, 2011). The agency problem arises from the existence of asymmetric information in the principal – agent contracts (Jenson & Messier, 2000). According to them, the existence of information asymmetry between corporate management and company shareholders is a necessary condition for and easy perpetration of earnings misreporting and financial statements manipulations. The audit of a company's accounts is a monitoring or control mechanism that diminishes information asymmetry and protects the interests of the principal.

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Agency theory originated from the work of Berle and Means (1932). They explored the concept of agency and the applications towards the development of large corporations. They found out how the interest of the directors and managers differ from the owners of the firm, thereby using the concepts of agency- principal to explain the genesis of those conflicts.

Methodology

This study adopted ex-post facto research designs. The research used data obtained from documented historical data contained wherein the annual reports and accounts of those listed companies under study, where the variables of study were not controlled since the phenomenon of the study has already occurred. This design is considered appropriate for determining the effect of board characteristics and ownership structure on sustainability reporting of quoted companies in the consumer goods sector in Nigeria.

The population of the study consists of all the twenty-one (21) consumer goods companies quoted on the Nigerian Stock Exchange from 2011 to 2020. The study covered a period of ten (10) years from 2011 to 2020. The entire twenty-one (21) companies were drawn from the entire population as sample size. Only companies with complete annual report within the period covered by the study were considered for the purpose of data collection and analysis. A regression technique seeks to establish the relationship between one dependent variable and two or more independent variables. For the purpose of this study, five sets of independent variables were considered namely board independence, board size, board gender diversity, managerial ownership and institutional; while the dependent variable is sustainability reporting.

Model Specification

$$SR_{it} = \beta 0_{it} + \beta_1 BIND_{it} + \beta_2 BS_{it} + \beta_3 BGD_{it} + \beta_4 MGO_{it} + \beta_4 INOW_{it} + e_{it}$$

Where:

SR= Sustainability reporting

B0 = Constant

BIND= Board independence

BS= Board size

BGD = Board gender diversity

MGO= managerial ownership

INOW = Institutional ownership

e = Error Terms

I = firm

T= time

Variables Definition and Measurement

Variables	***Measurement***
Sustainability reporting	*GRI 4 Index*
board independence	*board independence defined as percentage of independent non-executive directors on board*
Board size	*The total number of directors on the board*
Board gender diversity	*proportion of female directors to the total number of directors on board.*
Managerial ownership	*The proportion of ordinary shares held by the CEO and executive directors (dividing the directors shares on total shared issued and fully paid)"*
Institutional ownership	*Number of institutional shares + block holders shares to the total shares of the company.*

Result and Discussion

Table 1 Descriptive Statistics

Variables	SR	BI	BS	BGD	MGO	INOW
Mean	0.234758	0.412945	9.047619	0.239189	0.129820	0.278438
Median	0.222222	0.375000	8.000000	0.175692	0.018961	0.187782
Maximum	0.964236	0.815673	19.00000	0.930640	0.976570	0.930640
Minimum	0.010010	0.083333	5.000000	0.000000	0.000359	0.000228
Std. Dev.	0.200660	0.190020	3.244077	0.191390	0.223624	0.232652
Skewness	0.908728	0.266942	1.086725	1.992824	2.075046	0.973246
Kurtosis	3.380603	2.088369	3.759786	6.621077	6.595746	3.096281
Jarque-Bera	30.17002	9.765908	46.38513	253.7289	263.8357	33.23336
Probability	0.000000	0.007575	0.000000	0.000000	0.000000	0.000000
Observations	210	210	210	210	210	210

Source: Generated from View, 2021

From Table 1, the mean value of Sustainability reporting (SR) of the consumer goods firms is 0.234758, with standard deviation of 0.200660. Mean of SR indicates that the companies in this research on average have a disclosure index of 23.5%. Standard deviation is 0.200660 is lower than mean, so it can be said that the data has small variations. The minimum and maximum values of sustainability reporting were 0.010010 and. 0.964236 respectively. The results from the table also show that board independence have average of 0.412945 with standard deviation of 0.190020, suggesting that the deviation from mean is 19%. The minimum and maximum independent board members are 0.08 and 0.82 respectively.

The descriptive statistics further indicates that the number of the board of directors ranges between 5 and 19 with a mean value of 9.05 which is in line with the 2009 Securities and Exchange Commission (SEC) Code of Corporate Governance which recommends that the board should be of a sufficient size relatives to the scale and complexity of the company's operation and that membership of the board should not be less than five (5).The standard deviation of 3.244077 implies that the data is widely dispersed.

From the table, we can also see that the proportion of women on the boards range from a minimum of 0.0000 to a maximum of 0.9 and a mean of 0.2. This shows that the women representation on the board of the sampled companies is very poor. This is because the average representation is only 10%. The minimum of 0.000 proves that some companies did not include women in their team of Board of Directors during this period of study; and for those that included women, the maximum representation is only 30%. The standard deviation of 0.191390 indicates that there is a little variation in the data.

The above shows that the average number of shares owned by managers, commissioners is 13%, the managerial ownership (MO) and range is about 0% - 98% while the institutional ownership (IO) is between 0.0% - 93%, with average value of 0.278438. Which depict that 28% of the company is owned by institutional ownership. The probability values for the jaque-bera test are all normally distributed.

Table 2 Correlation Matrix

	SR	BI	BS	BGD	MGO	INOW
SR	1.000000	-0.135641	0.031500	-0.203986	-0.211698	0.135379
BI	-0.135641	1.000000	-0.031483	0.083981	0.032545	0.106851
BS	0.031500	-0.031483	1.000000	-0.282099	0.145858	-0.191664
BGD	-0.203986	0.083981	-0.282099	1.000000	0.130294	0.212960
MGO	-0.211698	0.032545	0.145858	0.130294	1.000000	0.017195
INOW	0.135379	0.106851	-0.191664	0.212960	0.017195	1.000000

Source: Generated from View, 2022

The correlation matrix as presented in Table 2 shows that there was a negative relationship between sustainability reporting (SR) and board independence, from the correlation coefficient of -14%. This implies that a decrease in independent board members, could likely have led to an increase in sustainability reporting of the listed consumer goods firms in Nigeria.

Table 2 shows that sustainability reporting is 31% associated with board size. This signifies that the larger the size of the board members the higher the level of sustainability reporting by the firms. The table also shows the correlation coefficient between board gender diversity and sustainability reporting of -0.203986. This negative correlation indicates that some firms with high female members are likely not to disclose their information voluntarily. From the table also managerial ownership has a negative correlation of -0.211698 with sustainability reporting, while institutional ownership has a positive correlation of 14% with sustainability reporting.

Table 3 Variance Inflation Factor

Variance Inflation Factors
Date: 15/01/22 Time: 15:06
Sample: 1 210
Included observations: 210

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
BI	0.004844	5.837836	1.016119
BS	1.88E-05	10.14572	1.150890
BGD	0.005440	2.974373	1.157641
MGO	0.003638	1.414956	1.057020
INOW	0.003427	2.628797	1.077738
C	0.003325	19.40694	NA

Source: Generated from View, 2022

The multicollinearity test from the table above showed that all the VIF values are less than 10 and the tolerance values are not less than 0.1. The result depicted that there is no evidence of multicollinearity among the explanatory variables.

Table 4 Hausman Specification

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	2.711288	5	0.7444

Source: Generated from View, 2022

The Hausman specification was conducted to find out between the fixed and random effect model which was more appropriate for the interpretation. The result of the Hausman Test revealed that the value of chi-square prob. is 0.7444 which is insignificant at 5% level, which means that the Hausman Test is in favour of random effect model. Therefore, the random effect model is used.

Table 5 Random Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BI	-0.140541	0.070541	-1.992332	0.0477
BS	0.002307	0.004397	0.524517	0.6005
BGD	-0.210415	0.074755	-2.814742	0.0054
MGO	-0.170617	0.061135	-2.790808	0.0058
INOW	0.174874	0.059336	2.947185	0.0036
C	0.295713	0.058440	5.060087	0.0000
R-squared	0.127867			
Prob.(F-statistic)	0.000035			
Observation	210			

Source: Generated from View, 2022

The cumulative R2, (0.127867) which is the combined coefficient of determination indicates the extent to which the independent variables explain the total variation in the dependent variable. Thus, it signifies that 12.8% of the total variation in the sustainability reporting of selected consumer goods firms in Nigeria is caused by board independent, board size, board gender diversity, managerial ownership and institutional ownership. The prob. of F-statistics is significant at 5% level indicates that the model of the study is fit.

The table 5 revealed that board independent has a negative and significantly effect on sustainability reporting of listed consumer goods firms in Nigeria. The beta coefficient of the variables is -0.140541and the p-value is 0.0477 which is significant at 5% level of significance. Implying that board independent significantly affecting the sustainability reporting of listed consumer goods firms in Nigeria. This provides a basis for rejecting the null hypothesis one which stated that board independent has no significant effect on sustainability reporting of listed consumer goods firms in Nigeria. The findings here contradict that of Limpaphayom and Zhou, which has a positive effect on disclosure

Furthermore, the result exhibits evidence that board size has a positive insignificant effect on sustainability reporting of listed consumer goods firms in Nigeria. The result shows a beta coefficient of 0.002307 with p-value of 0.6005 indicating that the p-value is not statistically significant. This implies that board size as one of the proxies of firm characteristics does not significantly affect the sustainability reporting of listed consumer goods firms in Nigeria. The results serve as a basis for failing to reject the null hypothesis two, which states that board size has no significant effect on sustainability reporting of listed consumer goods firms in Nigeria.

Furthermore, the table also revealed that board gender diversity has a negative and significant effect on sustainability reporting of listed consumer goods firms in Nigeria. The beta coefficient of the variables is -0.210415 and the p-value is 0.0054 which is significant at 5% level of significance. This indicates that board gender diversity has negative significant effect on the sustainability reporting. Therefore, the study therefore, rejected the null hypothesis three which stated that board gender diversity has no significant effect on sustainability reporting of listed consumer goods firms in Nigeria. The study differs in findings with Lilik, Bambang, Sutrisno and Erwin (2014)

The table above revealed that managerial ownership has a negative and significant effect on sustainability reporting of the selected consumer goods firms in Nigeria. The beta coefficient of the variables is -0.170617 and the p-value is 0.0058 which is significant at 5% level of significance. Implying that managerial ownership significantly affecting the sustainability reporting of listed consumer goods firms in Nigeria at 5% level of significance, indicating that for every unit increase in managerial ownership, sustainability reporting decrease by 17 percent. The findings is consistent with Mohd Ghazali and Weetman (2006), SialaGhorbel (2005) and Eng and Mak (2003).

The table also revealed that institutional ownership has a positive and significant effect on the sustainability reporting of listed consumer goods firms in Nigeria. The beta coefficient of the variables is 0.174874 and the p-value is 0.0036 which is significant at 5% level of significance. This indicates that for every unit increase in institutional ownership increase by 17%. Therefore, the study rejected the null hypothesis which states that institutional ownership has no significant effect on sustainability reporting of the listed consumer goods in Nigeria. The finding of this research work is consistent with the following findings by Kumar (2004) and Rachmawati and Hanung (2007).

Conclusion and Recommendations

The objective of this study was to examine the effect of board characteristics and ownership structure (board independent, board size, board gender diversity, managerial ownership and institutional ownership) on sustainability reporting of consumer goods firms in Nigeria. The study found that all four firm attributes (board independent, board size, board gender diversity and institutional ownership) have significant effect on sustainability reporting. While managerial ownership has no significant effect on sustainability reporting of listed consumer goods firms in Nigeria.

The following are the recommendations that are drawn from the conclusions of the study:

That small board size is to be encouraged in sampled consumer goods firms. However, we recommend that the maximum size of the board should be 8 members whilst the small board should consist of 5 members on the board.

That the percentage of women directors on the board be given a right perspective in that gender also matters, women directors should be in certain strategic positions on the board, there should be at least two and four for small and big board respectively since the percentage women directors has a positive influence on sustainability reporting.

Since managerial ownership has a negative significant effect on sustainability reporting its implies that the managing directors has to improve the way they bring idea on how the company reveal their activities voluntarily.

From the study it was concluded that institutional ownership has positive and significant influence on sustainability reporting. This implies that institutional ownership plays a vital role in improving the sustainability reporting of listed consumer goods firms in Nigeria hence consumer goods firm should encourage more institutional ownership in the firm.

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Appendix

FIXED EFFECT

Dependent Variable: SR
Method: Panel Least Squares
Date: 15/01/22 Time: 14:57
Sample: 2011 2020
Periods included: 10
Cross-sections included: 21
Total panel (balanced) observations: 210

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BI	-0.146964	0.070839	-2.074628	0.0393
BS	0.003181	0.004475	0.710867	0.4780
BGD	-0.201101	0.075774	-2.653944	0.0086
MGO	-0.180737	0.061870	-2.921212	0.0039
INOW	0.168797	0.059809	2.822280	0.0053
C	0.291229	0.059123	4.925858	0.0000

Effects Specification

Period fixed (dummy variables)

R-squared	0.143649	Mean dependent var	0.234758
Adjusted R-squared	0.082168	S.D. dependent var	0.200660
S.E. of regression	0.192240	Akaike info criterion	-0.391399
Sum squared resid	7.206435	Schwarz criterion	-0.152320
Log likelihood	56.09689	Hannan-Quinn criter.	-0.294748
F-statistic	2.336460	Durbin-Watson stat	0.803223
Prob(F-statistic)	0.005278		

RANDOM MODEL

Dependent Variable: SR
Method: Panel EGLS (Period random effects)
Date: 15/01/22 Time: 14:58
Sample: 2011 2020
Periods included: 10
Cross-sections included: 21
Total panel (balanced) observations: 210
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BI	-0.140541	0.070541	-1.992332	0.0477
BS	0.002307	0.004397	0.524517	0.6005
BGD	-0.210415	0.074755	-2.814742	0.0054
MGO	-0.170617	0.061135	-2.790808	0.0058
INOW	0.174874	0.059336	2.947185	0.0036

C	0.295713	0.058440	5.060087	0.0000

Effects Specification			
		S.D.	Rho
Period random		0.000000	0.0000
Idiosyncratic random		0.192240	1.0000

Weighted Statistics			
R-squared	0.127867	Mean dependent var	0.234758
Adjusted R-squared	0.106491	S.D. dependent var	0.200660
S.E. of regression	0.189675	Sum squared resid	7.339245
F-statistic	5.981871	Durbin-Watson stat	0.821841
Prob(F-statistic)	0.000035		

Unweighted Statistics			
R-squared	0.127867	Mean dependent var	0.234758
Sum squared resid	7.339245	Durbin-Watson stat	0.821841

HAUSMAN SPECIFICATION

Correlated Random Effects - Hausman Test
Equation: Untitled
Test period random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	2.711288	5	0.7444