BOARD DIVERSITY AND SUSTAINABILITY REPORTING IN NIGERIA: A STUDY OF CONSUMER GOODS FIRMS

Akadakpo Bukola Adefunke, PhD[1] Ashafoke oghenekome Tina, PhD[2]
[1&2]Department of Accounting, University of Benin, Benin City

Abstract

The study examined how board of directors' diversity influence sustainability reporting in Nigeria. The study sampled seventeen (17) randomly selected consumer goods firms listed on the Nigerian Exchange Group (NGX) over a nine-year period (2012 to 2020). It employed a multi-method quantitative research approach and conducted the analysis using the random effect panel least squares. The findings revealed a positive relationship between every variable investigated and the sustainability reporting (hereafter, SR) of the sampled firms. However, gender diversity, board members' educational backgrounds, board size, and board independence were not statistically significant at the 5% level of significance, whereas nationality diversity and age diversity of directors exerted significant positive effects on SR. Furthermore, the study found a positive relationship between SR and the control variable of corporate social responsibility (CSR) at the 5% significance level. Given these findings, the study recommends an increased representation of female directors among consumer goods firms in order to enhance the current level of SR. Furthermore, there is also the need to encourage the representation of foreign directors on the board to enhance the current level of SR in consumer goods firms.

Keywords: board diversity, sustainability reporting, Nigeria, consumer goods firm, gender diversity, board educational background, age diversity

1. Introduction

The Global Reporting Initiative (GRI) (2019) opined that sustainability reporting is a way of evaluating, ascertaining, quantifying, revealing, and assuring internal and external stakeholders of an organisation's full performance in relation to the objective of sustainable development. A sustainability report demonstrates how well firms contribute to and improves the environment and society in their quest for profit maximization and survival. However, in contemporary times, it is sad to know that firms have paid more attention to their economic performance (Anazonwu et al., 2018). Natural disasters such as floods and earthquakes, as well as an increase in greenhouse gas emissions, water and air pollution, social inequality, and violence, have all increased over time due to their disregard for their social and environmental responsibilities (Chong, 2019). Stakeholders are calling on businesses to be more socially and environmentally responsible in light of the ongoing natural disasters and social injustice brought on by these businesses. To help accomplish this goal, businesses should integrate sustainability reporting into their business strategy.

Compared to other industries, consumer goods companies have made a significant contribution to the development and expansion of the Nigerian economy. However, many of these companies face criticism and condemnation for creating social and environmental issues in the communities where they operate. Stakeholders, on the other hand, demand that companies report and account for how their operations affect the environment in which they operate. This necessitates the importance and significance of sustainability reporting (Umukoro et. al., 2019). Non-reporting companies in Nigeria see little or no benefit from reporting sustainability; such firms perceive environmental reporting as too expensive (Aminu & Umar, 2021).

Organisations can acquire a competitive edge in the global business market and reaffirm their commitment to addressing stakeholder needs by using a sustainability report. The purpose of such a report is to attain the directive of the United Nations (UN) (2015) on sustainable development goals in businesses and government worldwide (Saidu et al., 2020). The UN (2015) forecasted the achievement of these goals before 2030. Regrettably, firms worldwide do not widely embrace or recognise sustainability reporting (SR) as part of a business model for good production and long-term viability (Johari & Komathy, 2019). This is because the report is voluntary for most firms around the world.

Some empirical studies (Berger, 2019; Fuente et al., 2017; Ibrahim & Hanifah, 2016; Zaid et al., 2020; Huijsman, 2017; Hesselink, 2017) have looked into the impact of a diverse board on sustainability reporting or performance. However, in Nigeria, despite the researchers (Adeniyi & Fadipe, 2018; Awodiran, 2019; Emmanuel et al., 2018; Anazonwu et al., 2018; Saidu et al., 2020; Umukoro et al., 2019) who carried out studies on the relationship between board diversity and sustainability reporting, it is still in its early stages.

Although there are studies done internationally and locally, there are still mixed findings on the various measurements used. Researchers such as (Al-Shaer & Zaman, 2016; Ben-Amar et al., 2017; Berger, 2019; Fuente et al., 2017; Garcia-Sanchez et al., 2019; Hesselink, 2017; Rodriquez-Ariza et al., 2012; Sharif & Rashid, 2014) carried out their studies on the relationship between board diversity and sustainability reporting, measuring board demographic diversity like gender, nationality, and age. Also, few studies (Baker et al., 2020; Katmon et al., 2017; Khan et al., 2019) have examined the influence of board cognitive diversity, such as education level, educational background, industrial experience, and functional expertise, on sustainability reporting. To the best of the researcher's knowledge, not many Nigerian studies have conducted on the relationship between board educational background diversity and sustainability reporting.

Also, we discovered inconsistencies in the scientific literature about the relationship between gender, ethnicity diversity, and the degree of sustainability documentation. To the best of the researcher's understanding, only a few studies like Saidu et al. (2020), Awodiran, (2019), Adeniyi & Fadipe (2018), Anazonwu et al. (2018) have explored the relationship between a diverse board and the level of sustainability reporting in Nigeria. Specifically, there is a dearth of literature on the nexus between board members' educational backgrounds, diversity, and sustainability reporting in Nigeria. We also noted that the relationship between age diversity and sustainability reporting has not received critical scrutiny. However, the few studies that were attempted used a small sample size, which is not robust enough to make a valid generalization. Against the above backdrop, this study will add to existing literature and increase the sample size of previous works. Secondly, we will critically examine age diversity, providing empirical evidence on the relationship with sustainability reporting.

This study's main objective is to investigate how a diverse board affects sustainability reporting. in Nigeria. Specifically, the goals are to investigate how board member diversity in terms of gender, nationality, size, independence, age, and educational background affects sustainability reporting in Nigeria. Therefore, statement form is required; itemizing or numbering them is not necessary.

2. Review of literature

The study is underpinned on the stakeholder's theory to examine the nexus between board diversity and sustainability reporting. According to the notion, a firm's various stakeholders are essential to its long-term survival, and as such, businesses must modify their operations to accommodate these stakeholders. By extending this theory to the concept of sustainability reporting, it can be stated that the board of directors identify the most important stakeholder by issuing quality sustainability reporting to hold their interest and boost their confidence in the firm.

2.1. Concept of Sustainability Reporting

In line with the Global Reporting Initiative [GRI] (2019), sustainability reporting, efficiency, or transparency is the mechanism by which an organization offers knowledge about the fiscal, environmental, and social effects of its daily activities. Researchers also mix up corporate social responsibility and environmental news (Berger, 2019). Corporate social responsibility (CSR) is a self-regulating business model that helps a company to be socially accountable to itself, its stakeholders, and the public.

Moreso, in GRI concept of sustainability reporting, there are obvious advantages to revealing fiscal, social, and environmental issues. According to Aifuwa, Saidu, Enehizena, and Osazevbaru (2019), the advantages of sustainability monitoring include improved economic efficiency, improved company prestige, the recruitment of better investors, and strong employee morale.

There are two types of sustainability reporting currently in use: discretionary sustainability reporting and mandatory sustainability reporting. Voluntary sustainability reporting occurs as administrators choose whether, how, and when to share sustainability information at their discretion, despite the absence of any mandatory requirements. The national government or its designated regulatory entity, such as the Securities and Exchange Commission, which oversees the operations of publicly listed firms, requires mandatory sustainability reporting.

Companies in the private sector pioneered sustainability reporting. Developed countries are the primary users of sustainability news. Sustainability, on the other hand, is still global in nature. Transparency in supply chains, for example, and responsible corporate practices, such as regard for social and environmental issues, are also critical for developing countries. Public sector organizations are increasingly involved in analyzing their position in the larger sense of sustainability. Private-sector companies pioneered sustainability reporting. The developed world is the primary consumer of sustainability news. Sustainability, on the other hand, remains a global phenomenon. Transparency in supply chains, for example, and responsible corporate practices, such as consideration for social and environmental concerns, are also important for developing countries. Organizations in the public sector are becoming more interested in assessing their position in the broader context of sustainability.

Sustainability reporting can also help companies better identify and manage sustainability risks, as well as predict shifting public standards. Natural resource management, for example, has an impact on current success, and failing to prepare for the future can jeopardize prospects. Furthermore, reporting can be used as a tool for leadership, to improve employee retention, and to make companies more appealing to new workers. Sustainability reporting may also raise internal organizational awareness of sustainability issues. All of this helps companies make strategic decisions and can improve long-term financial prospects. Since it allows a company to use natural resources more effectively, increase process performance, and use recoverable resources, sustainability reporting can be a cost-cutting tool. Paying attention to energy use and potential steps to minimize it, for example, will help reduce energy costs and therefore spending. Indirect savings may occur, for example, if the need to pay related environmental taxes is reduced, or if insurance premiums are reduced.

Despite the Nigerian stock exchange's acceptance of the GRI platform in 2018 and the inclusion of sustainability disclosure in the Nigerian code of corporate governance in 2018, there is still a low rate of environmental and social concerns being reported (Aifuwa, et al., 2019). The GRI appears to be the most widely used framework for reporting on environmental problems (Johari & Komathy, 2019), but other mechanisms or standards exist, such as International Integrated Reporting Council (IIRC), Sustainability Accounting Standards Board (SASB), Greenhouse Gas Protocol and United Nations Global Compact (UNGC), International Standard Organisation (ISO), Carbon Disclosure Project (CDP) (Aifuwa, 2020; Aifuwa et al., 2019; Nwobu, 2017).

2.2. Empirical Review

2.2.1. Gender Diversity of the Board Members and Sustainability Reporting

According to Nadeem, Zaman and Saleem, (2017) over the last decades, the gender of board members has attracted a reasonable amount of interest from intellectuals, academia, researchers, policymakers and investors. In conventional board, female representation is considered to improve board performance however, the studies of Aifuwa, Saidu & Gold (2020), Ozordi et al. (2020) showed there little or no representations. Their absence from top management functions is not encouraging, despite their unique demographic attributes and personal traits

Leaning on the unique demographic attributes and personality traits of the female gender, Jaffe and Hyde (2000), Smith and Roger (2000) argued that women are more concerned with social and environmental risk than their male counterpart. Also, Galbreath (2018) was of the view that women directors are more diligent in sourcing and collecting information on economic, environmental and social issues to meet stakeholders needs to improve the performance and reputation of the firm. Empirically studies (like Al-Shaer & Zaman, 2016; Ben-Amar et al., 2017; Inua & Emeni, 2019; Nadeem et al. 2017; Anazonwu et al. 2018; Ong & Djajadikerta, 2017; Berger. 2019; Zahid, UrRahman, Ali, Khan, Alharthi, Imran, & Jan, 2019) have suggested that female representation in the board would positively increase corporate sustainability performance. Meanwhile, empirical studies (Adeniyi & Fadipe, 2018; Zaid et al. 2020; Awodiran, 2019; Fakoya & Nakeng, 2019 Masud, et al. 2018) have provided robust evidence that female gender in the board does not improve sustainability performance.

2.2.2. Educational Background Diversity of Board Members and Sustainability Reporting

Using data for the period 2014 to 2018, Saidu et al. (2020) investigated the impact of a diverse board on the level of sustainability reporting in listed industrial goods companies on the Nigerian Exchange Group by using data from the period 2014 to 2018. They created a sustainability transparency ranking based on the most recent edition of the Global Reporting Initiative (GRI) criteria in order to score the information quality of annual reports on sustainability results. The board members' composition was proxied by their nationality, age, and educational degree. To approximate the model, they used fixed impact panel least squares. They discovered that boardroom age diversity has a detrimental and important impact on the extent of sustainability reporting. Furthermore, they discovered that both ethnicity and education level diversity had little impact on sustainability news.

2.2.3. Board Independence of Board Members and Sustainability Reporting

Herda, Taylor and Winterbotham (2012) examined the effect of board independence and sustainability reporting. The purpose of this exploratory study is to see if board independence influences the sustainability reporting decisions of the 500 largest companies in the United States. They also look at other elements that might be linked to sustainability reporting, such as environmental performance and reputation. From their study, it was ascertained that corporations with a higher share of independent board members are more likely to issue standalone sustainability reports, and publish higher quality sustainability reports. This article adds to the existing literature, which finds slightly conflicting findings on the effect of board independence on voluntary disclosure.

Ong and Djajadikerta (2017) assessed the influence of corporate governance on sustainability reporting by investigating enterprises working in Australia's resources industry. The study explicitly examines the relationship between the overall disclosures and, distinctly, the three parts of sustainability disclosures which are economic, environmental, and social and various board composition qualities, such as independent directors, multiple directorships, and women directors. From their findings, sustainability disclosures were shown to have significant positive associations with the proportion of independent directors, multiple directorships, and female directors on the board. Companies that do not have a CEO dual role and those that have a sustainability committee revealed more sustainability information. These findings give empirical evidence that firms with a more diverse board of directors encourage more effective corporate governance by providing a broader range of sustainability disclosures.

2.2.4 Board Size and Sustainability Reporting

The study of Olayinka and Owolabi (2021) which examined the corporate governance and sustainability reporting adopted an ex-post facto research design. The population of the study comprised 169 quoted companies on the Nigerian Exchange Group (NGX) as at December 31, 2020. The sample size were forty-two quoted companies selected through stratified and purposive sampling techniques for the period of 8years (2012-2020. From their research analysis, it was found that Board size, board independence and female director have positive and significant effect on sustainability reporting. Likewise, CEO duality, on the other hand, has a positive and insignificant influence on sustainability reporting. From the study, it was showed that corporate governance has a major impact on environmental sustainability reporting in Nigerian listed companies. They recommended in their study that as the percentage of female shareholders increases, more female and independent directors should be appointed to the board.

Odoemelam and Okafor (2018) evaluated how corporate governance affected Nigerian non-financial listed companies' environmental disclosures. According to their findings, board size was statistically negligible in relation to environmental disclosures, but board independence and the environmental committee were statistically significant. Naseer and Rashid (2018) examined the connection between environmental reporting and corporate governance in Pakistan and discovered that greater levels of environmental reporting quality are correlated with more independent directors, a larger board, CEO duality, and board ownership.

2.2.5. Age Diversity of Board Members and Sustainability Reporting

Priscila, et al. (2021) investigated, using a total of 194 firm-year observations, Brazilian enterprises having corporate governance provided in the CVM reference form, financial data in the Economática® database, and CSR assessed by the CSRHub database, during the 2016–2017 biennium. The presence of women, age heterogeneity, and average age of the top management team and board of directors were used to gauge diversity. The study's conclusions showed that gender diversity on the board of directors and the senior management team's older average age both benefit Brazilian companies' corporate social responsibility initiatives.

Also, the study of Saidu, et al. (2020) investigated the relationship between age diversity and sustainability reporting on the Nigerian Exchange Group from the period 2014-2018.Descriptive and inferential statistics were employed in the study to compile the data and make conclusions about the population under investigation. The results showed that the amount of sustainability reporting is adversely and considerably impacted by age diversity in the boardroom.

3. Methodology

The study used the longitudinal or expos-fact research design. The study used data collected from the annual reports of seventeen (17) listed consumer goods firms on the floor of the Nigerian Exchange group as at 31st December, 2020 for a period of nine years (2012 to 2020). The sector was preferred because its activities revolve around economic, environmental and social which are the three (3) dimensions of sustainability reporting and this sector has not been the focus of prior studies. The study Employed the panel least square regression for the analysis of data. However, preliminary tests such as descriptive statistics and correlation coefficient were also employed to ascertain the background characteristics among the data set.

Model Specification

In order to examine the impact of a diverse board on sustainability reporting among listed industrial goods firms in Nigeria, this study modified the model of Saidu, et al. (2020). They specified their model as follows;

$SNR_{it} = \beta_0 + \beta_1 BMN_{it} + \beta_2 BMA_{it} + \beta_3 BME_{it} + \beta_4 FAGE_{it} + \beta_5 FSZE_{it} + \varepsilon_{it}$ …........................…...(1)

Where,

SNR= Sustainability Reporting;

β_0 = Constant;

BMN = Board Member Nationality;

BMA = Board Member Age;

BME = Board Member Education;

FAGE = Firm Age; and

FSZE = Firm Size.

However, slight alteration was made to the model above for this investigation. This change aligns with how sustainability reporting will be measured, which made it differs from previous studies.

The study of Saidu, et al. (2020) focused on listed industrial goods firms as the measure used to proxy sustainability reporting but this study focused on a different sector which is the consumer goods sector. Again, on the variables, the study introduced gender diversity, board size, board independence and educational background. Also, on the control variable we introduced committee on sustainability reporting. Therefore, the functional form of the model for this study is as follows:

In functional form:

$SNR = f(GDIV, NDIV, ADIV, EBDIV, BSIZ, BIN)$...(2)

In econometric form:

$SNR_{it} = \beta_0 + \beta_1 GDIV_{it} + \beta_2 NDIV_{it} + \beta_3 ADIV_{it} + \beta_4 EBDIV_{it} + \beta_5 BSIZ + \beta_6 BIN\ \varepsilon_{it}$........(3)

Adding control variable to the study we have our model to be represented as:

$SNR_{it} = \beta_0 + \beta_1 GDIV_{it} + \beta_2 NDIV_{it} + \beta_3 ADIV_{it} + \beta_4 EBDIV_{it} + \beta_5 BSIZ_{it} + \beta_6 BIN_{it} + \beta_7 CSR_{it} + \varepsilon_{it}$.....(4)

Where:

SNR= Sustainability Reporting;

β_0 = Constant;

GDIV = Gender diversity;

NDIV = Nationality diversity;

ADIV = Age diversity;

EBDIV = Educational background diversity

BSIZ = Board Size

BIN = Board Independence

CSR = Committee on sustainability reporting

$\beta_1, \beta_2\ \beta_3$ = Coefficient of explanatory variables

ε = Standard error

i = Cross sectional (Companies)

t = Time Series

A priori expectations in with extant literature to be $\beta_1, \beta_2, \beta_4, \beta_5, \beta_6, > 0$; $\beta_3 < 0$

3.1. Operationalisation and Measurement of Variables

Sustainability reporting has been identified as the study's dependent variable. The sustainability reporting index (SRI) was developed using the G4 sector-specific disclosures from the Global Reporting Initiative for food processing services. This is justified by the fact that the overall framework, which consists of social, environmental, and fiscal indices, is insufficient to suit the demands of specific businesses. For the economic, environmental, and social outcomes of the tested organizations, we employed a sustainability disclosure index created by the Global Reporting Initiatives GRI4, a professional organization.

Studies that have used the GRI4 index are Awodiran (2019) which focused on information quality of annual reports, finding it suitable to the industrial sector. Al-Shaer and Zaman (2016) used the GRI framework focusing on quality of social information. Saidu, et al. (2020) employed GRI framework to score the information content of annual reports. This study will adopt the GRI framework using the three metrics of economic, financial and social information on listed consumer goods firms. The justification for adoption of all three metrics is it provides a more comprehensive view of on all activities of companies on sustainability reporting. Complete disclosure of fiscal, financial, and social information results in a score of 1, whereas partial and no disclosure yield scores of 0 for the sampled firms. The formula used in deriving the variable is given below: Therefore, $SNR = \frac{TD}{M}$

Where;

SNR = Sustainability Reporting

TD = Total disclosure (N1 + N2 + N3)

N1= for the economic indicator i

N2= for the environmental indicator i

N3= for the social indicator i

M=Maximum possible score of 158

Secondary data was used for this study and it was extracted from annual reports of seventeen listed consumer goods firms (Cadbury Nigeria plc, Champion breweries plc, Dangote sugar plc, Flour mills Nigeria Plc, Guinness Nigeria plc, Honeywell flour mill plc, International breweries plc, Mcnichols plc, Nascon allied industries plc, Nestle Nigeria plc, Nigerian brewery plc, Nigerian enamelware plc, Northern Nigerian flour mills plc, PZ cussons Nigeria plc, Unilever Nigeria plc, Union dicon salt plc, Vitaform Nigeria plc) on the Nigerian Exchange group as at 31st December, 2020. Board diversity variables and economic, environmental and social disclosure was collected manually via content analysis from their annual reports.

4. Data presentation and discussion of findings

4.1. Descriptive Statistics

Table 1: ***Descriptive Statistics***

Stats	SNR	GDIV	NDIV	ADIV	EBDIV	BIN	BSIZ	CSR
Mean	0.438597	0.175928	0.244954	0.695906	0.217152	0.476304	10.50292	0.105263
Max	1	0.98252	0.75	1	9	1.65	17	1
Min	0	0	0	0	0	0.1222	4	0
Sd	0.497673	0.161098	0.215518	0.461374	0.695386	0.167477	2.789422	0.307794
Skewness	0.247487	2.24983	0.358132	-0.85173	11.91089	2.911613	0.24478	2.572479
Kurtosis	1.06125	10.62953	2.101407	1.725436	150.6063	20.56956	2.534031	7.617647
N	171	171	171	171	171	171	171	171

Source: Stata 14

Table 1 shows the descriptive statistics of variables used in the study. The mean of sustainability reporting stood at 0.438597 (approx. 44%). The minimum and maximum value of sustainability reporting are 0 and 1 with a standard deviation of 0.4976, this was found not to cluster around the mean. The mean value of gender diversity is 0.1759 with a minimum and maximum value of 0 and 0.98252, with a standard deviation of 0.161098. This implies that 17% of board members are female. The mean value of 0.244954 for national diversity of board members, it implies that 25% of board members are foreign directors. The mean value 0.695906 for age diversity shows that the board of directors' members average 69 years old. 22% of the board members have educational diversity with a mean value of 0.2171. The mean value of 0.4763 of board independence shows that 47% of board members have independence of operations. Board size has a mean value of 10.502, indicating that on the average the size of the board is 10-11. Also, the mean value of 0.1052 for CSR shows that 10% of companies sampled have sustainability reporting committee.

4.2. Correlation Statistics

Table 2 Correlation Matrix

	SNR	GDIV	NDIV	ADIV	EBDIV	BIN	BSIZ	CSR
SNR	1							
GDIV	0.0417	1						
NDIV	0.3037	-0.19	1					
ADIV	0.1744	-0.0256	-0.0157	1				
EBDIV	-0.0362	0.0531	-0.0664	0.0734	1			
BIN	0.0396	-0.0477	0.0319	0.0124	0.0286	1		
BSIZ	0.1071	-0.0886	0.2117	0.0327	-0.0704	-0.0541	1	
CRS	0.3881	0.0551	0.0645	0.0196	-0.05	-0.0058	0.1572	1

Source: Stata 14

The result from Table 2 above demonstrates that the variables have both positive and negative relationships. This is seen in the correlation coefficient and association between GDIV and SNR (0.0417), NDIV and SNR (0.3037), AGDIV and SNR (0.1744), EBDIV and SNR (-0.0362), BSIZ and SNR (0.1071), BIN and SNR (0.0396), CSR and SNR (0.3881). The strength of correlation between variables was less than 0.80, indicating that the predictor variables did not suffer from multicollinearity (Studenmund, 2014).

Table 3: Robust Regression

Robust regression				Number of obs	=	170
				F(7,	162) =	9.6
				Prob >	F =	0
SNR	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
GDIV	.1921992	0.228424	0.84	0.401	-0.25887	0.643272
NDIV	.7711646	0.171283	4.5	0	0.432929	1.1094
ADIV	.1864284	0.077499	2.41	0.017	0.03339	0.339467
EBDIV	.5730029	0.226732	2.53	0.012	0.125272	1.020734
BIN	.1835031	0.212223	0.86	0.388	-0.23558	0.602583
BSIZ	.0073222	0.013514	0.54	0.589	-0.01936	0.034008
CRS	.6204161	0.117327	5.29	0	0.388728	0.852104
CONS	.2537067	0.200012	-1.27	0.206	-0.64867	0.141261

Stata 14

An examination of table 3 using robust least squares analysis for the study's model revealed that GDIV has a positive and insignificant relationship with SNR, z(0.228424)= , $\beta_1 = 0.401$, $p > 0.05$. This implies that an increase in the number of female board members has no significant influence on sustainability reporting. The variable NDIV has a positive and significant relationship with SNR, z(.7711646)= 2.99, $\beta_2 = 0$, $p < 0.05$. This implies that the increase of foreigners on the board has a significant effect on sustainability reporting. Likewise, ADIV has a positive and significant relationship with SNR, z(1, 171)= 2.03, $\beta_3 = 0.012$, $p < 0.05$. This result shows that an increase in the number of both young and old board members will increase the extent of sustainability reporting. The variable EBDIV has a positive and significant relationship with SNR, $\beta_4 = 0.0122$, $p > 0.05$. The result shows that an increase in the number of directors with different educational background has a positive and significant impact on sustainability reporting. Equally, BSIZ has a positive and insignificant relationship with SNR, -0.61, $\beta_5 = 0.89$, $p > 0.05$. The result shows that board size has a positive and significant effect on sustainability reporting. Additionally, BIN has a positive and insignificant relationship with SNR, $\beta_6 = 0.388$, $p > 0.05$. Moreover, CSR has a positive and significant relationship with SNR = 0.11737 $\beta_7 = 0.0$, $p < 0.05$. The overall Rn-squared statistic (goodness-of-fit test) capable of prediction which stood at Rn = 00.5 with a corresponding p-value of < .05 indicate strong rejection of the null hypothesis that all non-intercept coefficient is equal to zero. This implies that taken together, the independent variables and the control variables jointly account for the variation in SNR.

4.3. Discussions of Findings

The result from analyses yielded positive relationship on every variable investigated and sustainability reporting of listed consumer goods firms in Nigeria. An increase in gender diversity might not lead to an increase in the extent of sustainability reporting because the relationship is not sign clear. We concluded that board gender diversity has an insignificant impact on sustainability reporting. This finding does not support the preposition of the Resource dependency theory and the stakeholder theory that gender diversity will improve the sustainability reporting of firms. Our findings are consistent with works of Anazonwu, Egbunike and Gunardi (2018), Al-Shaer and Zaman (2016), Ghazali and Ahmad (2019), Ben-Amar, Chang and McIlkenny (2017), Nadeem, Zaman and Saleem (2017), Vacca, Iazzi, Vrontis and Fait (2020) who all found a positive effect on sustainability reporting. However, our result is in dissonance with the works of (Awodiran (2019, Zaid et al, 2020; Adeniyi & Fadipe, 2018)), that found no evidence on the relationship between gender diversity and sustainability reporting, and the work of Shamil, Shaikh, Ho and Krishnan (2014) who found a negative nexus between gender diversity and sustainability reporting.

According to the study, nationality diversity significantly and favorably affects the sustainability reporting of listed consumer goods companies in Nigeria. Therefore, an increase in the current level of nationality diversity will lead to an increase in the extent of sustainability reporting. This finding is consistent with the work of Zaid, et al (2020), Saidu, Gold and Aifuwa (2020). However, our work is in dissonance with the work of Anazonwu, Egbunike and Gunardi (2018), who found that nationality diversity has no influence on the extent of sustainability reporting.

The study found that age diversity of director in the board have positive and significant impact on sustainability reporting of consumer goods firms in Nigeria. Therefore, an increase in the current proportion of directors of diverse ages will promote the extent of sustainability reporting in Nigeria. This finding is in line with the argument of Musa et al (2020) that a board comprised of both older and younger director is desired to achieve an improved sustainability performance. However, the result of this study is in dissonance with the works of Saidu, Gold and Aifuwa (2020) who found a negative association between age diversity of directors in the board of industrial goods firms and sustainability reporting. Also, in dissonance with the work of Baker, Ghazali and Ahmad (2019) who found no evidence on the nexus between age diversity and sustainability reporting.

Lastly, board members educational background diversity was found to have a positive but insignificant influence on listed consumer goods firms in Nigeria. This implies that directors with diverse educational background ranging from the sciences, humanities and management sciences will not improve the extent of sustainability reporting. Therefore, the educational background diversity should not be a vital criterion for employment into the board. The finding is in dissonance with the studies of Khan et al (2019b) and Clark and Maggitti (2012) who found significant relationships between board members educational background diversity and sustainability reporting.

5. Conclusion and Recommendations

The study investigated the Influence of a diverse board on sustainability reporting in Nigeria**.** The study examined nineteen (19) listed consumer goods firms from the period 2012 to 2020. Simple random sampling techniques were adopted in the study and the random effect panel least squares were effectively utilized to test the hypotheses of the study. The study concluded that board diversity influences the extent of sustainability reporting in listed consumer goods firms in Nigeria. Nationality diversity, educational background and age diversity has positive impact on sustainability, along with other companies. However, gender diversity has no significant effect and board member educational background diversity have a significant effect on sustainability reporting. Based on the finding of this study, the following recommendations were made;

1. The representation of female directors should be increased and encouraged to improve the current extent of sustainability reporting in consumer goods firms;
2. The representation of foreign directors on the board should be increased and encouraged to improve the current extent of sustainability reporting in consumer goods firms;

3. The board should comprise directors independent from each other and have powers to make decisions without depending on anyone else
4. The board should promote a mix of directors with diverse educational backgrounds.

References

Adeniyi, S. I., & Fadipe, A. O. (2018). Effect of board diversity on sustainability reporting in Nigeria: A study of beverage manufacturing firms. *Indonesian Journal of Corporate Social Responsibility and Environmental Management, 1*(1), 43-50.

Aifuwa, H. O. (2020). Sustainability reporting and firm performance in developing climes: A review of literature. *Copernican Journal of Finance and Accounting, 9*(1), 1-9.

Aifuwa, H. O., & Embele, K. (2019). Board characteristics and financial reporting quality. *Journal of Accounting and Financial Management, 5*(1), 30-49.

Aifuwa, H. O., Embele, K., & Saidu, M. (2018). Ethical accounting practices and financial reporting quality. *EPRA International Journal of Multidisciplinary Research, 4*(12), 31-44.

Aifuwa, H. O., Saidu, M., & Gold, N. O. (2020). Audit committee attributes and timeliness of corporate financial reporting in Nigeria. *Accounting and Finance, 88*(2), 1-15.

Aifuwa, H. O., Saidu, M., Enehizena, C. O., & Osazevbaru, A. (2019). Accounting information and lending decisions: Does sustainability disclosure matter? *Copernican Journal of Finance and Accounting, 8*(4), 61-89.

Al-Shaer, H., & Zaman, M. (2016). Board gender diversity and sustainability reporting quality. *Journal of Contemporary Accounting & Economics, 12*(3), 210-222.

Anazonwu, H. O., Egbunike, F. C., & Gunardi, A. (2018). Corporate board diversity and sustainability reporting: A study of selected listed manufacturing firms in Nigeria. *Indonesian Journal of Sustainability Accounting and Management, 2*(1), 65-78.

Awodiran, M. A. (2019). Corporate governance and sustainability disclosure: Evidence from listed industrial goods firms in Nigeria. Retrieved from https://ssrn.com/abstract=3395740.

Bakar, A. B. S. A., Ghazali, N. A. B. M., & Ahmad, M. B. (2019). Sustainability reporting and board diversity in Malaysia. *International Journal of Academic Research in Business and Social Sciences, 9*(2), 1044-1067.

Baker H. K., Pandey, N., Kumar, S., & Haldar, A. (2020). A bibliometric analysis of board diversity: Current status, development, and future research directions. *Journal of Business Research, 108*, 232-246.

Ben-Amar, W., Chang, M., & McIlkenny, P. (2017). Board gender diversity and corporate strategic change. *Academy of Management Journal, 35*(1), 91-121.

Berger, A. (2019). Sustainability disclosure and the limits of diversity. *Journal of EU Business School, 2*, 41-60.

Chong, K. (2019). Pasir Gudang chemical pollution–What harm can these chemicals do to you? SoyaCincau. com. In Soyacincau. Retrieved from https://www.soyacincau.com/2019/03/16/pasir-gudang-chemicalpollution/

Emmanuel, O., Uwuigbe, U., Teddy, O., Tolulope, I., & Eyitomi, A. G. (2018). Corporate diversity and corporate social environmental disclosure of listed manufacturing companies in Nigeria. *Problems and Perspectives in Management, 16*(3), 229-244. doi:10.21511/ppm.16(3).2018.19

Fasan, M., & Mio, C. (2016). Fostering stakeholder engagement: The role of materiality disclosure in integrated reporting. *Business Strategy and the Environment, 26*(3), 1-18.

Font, X., Guix, M., & Bonilla-Priego, M. J. (2016). Corporate social responsibility in cruising: Using materiality analysis to create shared value. *Tourism Management, 53*, 175-186.

Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. London: Pitman.

Fuente, J. A. García-Sanchez, I. M., & Lozano, M. B. (2017). The role of the board of directors in the adoption of GRI guidelines for the disclosure of CSR information. *Journal of Cleaner Production. 141*, 737-750.

García-Sánchez, I-M., Suárez-Fernández, O., & Martínez-Ferrero, J. (2019). Female directors and impression management in sustainability reporting. *International Business Review*, https://doi.org/10.1016/j.ibusrev.2018.10.007

Global Reporting Initiative (2019). What is sustainability reporting. Retrieved from https://www. gri.org

Hesselink, K. (2017). Board composition and corporate sustainability reporting quality. MSc thesis, Nijmegen School of Management, Radbound University. Netherlands.

Huijsman, M. C. (2017). The influence of executive board national culture and board nationality diversity on corporate social performance in Western European non-financial firms. Retrieved from http://www.divaportal. se/smash/get/diva2:1077895/FULLTEXT01.pdf

Ibrahim, A. H., & Hanefah, M. M. (2016). Board diversity and corporate social responsibility in Jordan. *Journal of Financial Reporting and Accounting, 2*, 279-298.

Johari, J., & Komathy. (2019). Sustainability reporting and firm performance: Evidence in Malaysia. *International Journal of Accounting, Finance and Business, 4*(17), 1-7.

Katmon, N., Mohamad, Z. Z., Norwani, N. M., & Farooque, O. (2017). Comprehensive board diversity and quality of corporate social responsibility disclosure: Evidence from an emerging market. *Journal of Business Ethics, 1*, 1-35.

Khan, I., Khan, I., & Senturk, I. (2019). Board diversity and quality of CSR disclosure: evidence from Pakistan. Corporate Governance, DOI 10.1108/CG-12-2018-0371.

Rodríguez-Ariza, L., García-Sánchez, I., & Frías-Aceituno, J. (2012). The role of the board in achieving integrated financial and sustainability reporting. XV encuentro AECA, Ofir-Esposende (Portugal).

Saidu, M., Gold, N. O., & Aifuwa, H. O. (2020). Board diversity and sustainability reporting: Evidence from industrial goods firms. Izvestiya *Journal of Varna University of Economics, 64*(4), 377-398.

Sharif, M., & Rashid, K. (2014). Corporate governance and corporate social responsibility (CSR) reporting: An empirical evidence from commercial banks (CB) of Pakistan. *Quality & Quantity, 5*, 2501-2521

Umukoro, O. E., Uwuigbe, O. R., Uwuigbe, U., Adegboye., A., Ajetunmobi, O., & Nwaze, C. (2019). Board expertise and sustainability reporting in listed banks in Nigeria. *International Conference on Energy and Sustainable Environment, 331*. doi:10.1088/1755-1315/331/1/012048

Zaid, M. A., Wang, M., Adib. M., Sahyouni A., & Abuhijleh, S. T. F. (2020). Boardroom Nationality and gender diversity: Implications for corporate sustainability performance, *Journal of Cleaner Production*, (Pre-proof) https://doi.org/10.1016/j.jclepro.2019.119652.