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Corporate Firm Attributes and Environmental Disclosure Quality of Listed Industrial Firms in Nigeria

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Abstract

We surveyed Nigerian manufacturers to learn more about their operations and environmental reporting. Ex-post facto data were gathered from a company's published annual report between 2010 and 2020. Thirteen manufacturing firms were represented in the sample. Indicators of business characteristics such as profitability, board size, age, and firm size were incorporated into the study. Descriptive statistics, correlation analysis, and ordinary least squares were employed to analyze the data (OLS). According to the statistics, both board size and business age have substantial and favorable effects on environmental quality. Also, there was a positive correlation between company size and the quality of environmental disclosure, however this

correlation was not statistically significant. The quality of environmental disclosure has a tiny but unfavorable effect on return on investment. The data demonstrate that board size and company age are important determinants of environmental information disclosure. It has been proven that raising awareness about a company's influence on the environment may increase sales and gain the respect of the community. The research does find, however, that older organizations are more likely to publicly commit to environmental initiatives. This means that longer-standing companies are more likely to pursue novel strategies and have a greater capacity to respond to shifting market conditions.

Keywords: Firm Size, Firm Age, Environmental Disclosure Quality, Board Size, Nigeria

1. Background to the Study

Environmental disclosure is a two-way conversation between a firm and the people who have a stake in its success. The disclosure is essential because of the vital nature of the environment and the potentially harmful and damaging impacts of the company's actions. This information is included in the company's published annual report or may be provided in a separate document (Akanet 2013). According to Nor *et al.* (2015), companies are under increasing pressure to use environmental information disclosure in an effort to protect the planet. Companies that openly share their environmental data have been shown to outperform their peers. Better information disclosure, according to the reviewed literature, may help bridge the gap between management and external parties, give the firm a leg up in the marketplace, boost its public image, boost its stock price on the stock market, and lower its cost of capital (Kanda 2010; Dyes 2001; Akanet 2013).

It has been shown that companies that disclose their environmental impact perform better, and Nor *et al.* (2015) report that there is a strong desire for firms to undertake environmental disclosure in order to protect the world. According to the literature we reviewed, increased corporate transparency is beneficial for all parties involved. The stock price rises, the cost of capital decreases, and the company's image improves as a result of more transparency and disclosure to shareholders (Kanda 2010; Dye 2001; Akanet 2013).

The environmental impact of business growth in Nigeria has been devastating. The Global Reporting Initiative (GRI) and Business in the Community (BITC) have created standards to ensure uniformity in the reporting of environmental data. Businesses have been hearing about the importance of assessing and reporting their environmental effect for decades. This appeal is made with the hope of fostering conditions in which individuals and organizations can prosper throughout time (Votsi, Kallimanis, and Pantis, 2017) ^[22].

In view of the growing scale of the ecological pattern, the natural environment has become an important way for enterprises to benefit. A company is a form of enterprise in which all the factors that operate and support operational activities are collected. A company's profit goals must be supported by a large amount of funds to operate. For listed companies, one of the many ways to obtain capital is to trade their shares on the stock exchange (Amahalu, Egolum & Obi, 2019; Egolum, Amahalu & Obi 2019)

[14, 6]. In 2005, the Nigerian government passed the energy legislation bill which encourages companies to pursue effective environmental strategies by ensuring the deduction in tax for energy improvements. These developments have fostered firms to perceive the environmental practices. As the economic focus shifts towards social / environmental longevity, companies are encouraged to look at the bigger picture and see their impact on the world around them. A basic idea spread today is that companies must address all the values of the report to reduce the possibility that their activities will cause damage to global resources, not only to the current population but also to future generations.

1.1 Statement of problem

The phrase "board size" is commonly used to refer to the proportion of insiders to outsiders on a certain board. The effectiveness of a board of directors in reviewing and identifying opportunistic conduct by managers is correlated with the size of the board (Ntim, 2015) [15]. Bigger boards of directors typically have more diverse backgrounds in business, finance, and problem solving (Elmagrhi *et al.*, 2016; Mallin *et al.*, 2013) [7, 12]. Larger boards may be more open to disclosing details of their corporate governance practices, according to academic research (Cunha and Rodrigues, 2018; Elmagrhi *et al.*, 2016; Al Bassam *et al.*, 2018; Samaha *et al.*, 2012) [4, 7, 2, 17]. A larger board is associated with better environmental disclosures (Liao *et al.*, 2015; Osazuwa *et al.*, 2016; Wang 2017; Ezhilarasi and Kabr, 2017) [11, 16, 23, 8].

1.2 Objective of the Study

The selected objective for the study, is to know:

1. To know the effect of board size and environmental disclosure quality of listed industrial firms in Nigeria.
2. To know the effect of firm size and environmental disclosure quality of listed industrial firms in Nigeria.
3. To know the effect of firm age and environmental disclosure quality of listed industrial firms in Nigeria.
4. To know the effect of return on assets and environmental disclosure quality of listed industrial firms in Nigeria.

1.3 Research Questions

1. To what extent does board size influence environmental disclosure quality of listed industrial firms in Nigeria?
2. To what extent does firm size influence environmental disclosure quality of listed industrial firms in Nigeria?
3. To what extent does firm age influence environmental disclosure quality of listed industrial firms in Nigeria?
4. To what extent does return on assets influence environmental disclosure quality of listed industrial firms in Nigeria?

1.4 Research Hypotheses

HO₁: There is no nexus between board size and environmental disclosure quality.

HO₂: There is no nexus between firm size and environmental disclosure quality.

HO₃: There is no nexus between firm age and environmental disclosure quality.

HO₄: There is no nexus between return on assets and environmental disclosure quality.

1.5 Significant of the study

This study will be of important to both internal external stakeholders such as:

1. Shareholders;
2. Potential investors;
3. Researchers;
4. Government;
5. Management, to mention but a few.

1.6 Scope of the study

Thirteen manufacturing companies listed on the Nigerian Stock Exchange between 2010 and 2020 were analyzed to determine the quality of their environmental disclosures.

2. Theoretical Foundation

Corporate company qualities and the quality of environmental disclosure were studied using the institutional theory. Organizational structure, social norms, practices, and relationship patterns are all examined through the lens of institutional theory, along with their ties to a larger social and cultural context (Scott, 2008). He went on to say that the theory is widely accepted because it places an emphasis on efficiency, morality, and social conformity.

2.1 Empirical literatures

The term "board size" is used to describe the ratio of internal to external directors on a certain board. Boards with more members often have more members with different backgrounds, experiences, and perspectives, which is good for the company's reputation and public perception (Ntim, 2015) [15] and makes it easier for the board to examine and discover instances of managers engaging in inappropriate behavior (Elmagrhi *et al.*, 2016; Mallin *et al.*, 2013) [7, 12]. It has been theorized by academics that larger boards are more likely to provide information about their corporate governance processes than smaller boards (Cunha and Rodrigues, 2018; Elmagrhi *et al.*, 2016; Al Bassam *et al.*, 2018; Samaha *et al.*, 2012) [4, 7, 2, 17]. Researchers observed a favorable relationship between board size and the quality of their environmental disclosures (Liao *et al.* 2015; Osazuwa *et al.* 2016; Wang 2017; Ezhilarasi and Kabr 2017) [11, 16, 23, 8]. Longer-standing enterprises are more inclined to take environmental action in an effort to alter public perception and justify their continued existence. It seems to reason that more established businesses would be more open to sharing environmental data if doing so would aid in their further growth and success. Companies with greater experience in their field are better able to adapt to industry changes and are more likely to implement innovative strategies (Shauibu, 2020) [19]. If a long-established company is to survive into the foreseeable future, it must be transparent about the effects of its operations on the natural world. According to the research conducted by Shauibu (2020) [19], a favorable and statistically significant relationship was discovered between the age of a company and the quality of its environmental disclosure. The quality of a company's environmental disclosure might change as it ages, as Innocent and Gloria (2018) [9] noted.

The scale of an organization's operations is one aspect to examine. So, the size of the company may determine whether or not environmental data is included in the annual report. In their investigation of CSR, Setyorini and Ishak (2012) [18] found that larger companies were more likely to

provide relevant information. Cormier, Ledoux, and Magnan (2009) [3] found that the size of the firm has a pivotal role in EIA. Research by Nawaiseh (2015) [13] shows that as a firm grows, so does the quality of its environmental disclosure. To further, Uyagu, Joshua, and Terzungwe (2017) [21] pointed out that the larger a corporation is, the better its environmental disclosures would be. Dibia and Onwuchekwu (2015) found that larger enterprises are less likely to report their negative effects on the environment. The findings of Innocent and Gloria's (2018) [9] study add to the growing body of data linking a company's size to better environmental performance.

The company invests in social and environmental causes because doing so makes good business sense. Stockholder dividends are also determined by a company's earnings. Making a profit is essential if any of the aforementioned goals are to be achieved. For this reason, the success of a business depends on its ability to report on environmental conditions. Studies of environmental disclosure's influences—including the effect of profits—have yielded the following results: According to Jariya (2015) [10], environmental reporting is influenced by the need to maximize profits. Studying what variables affect environmental reporting in Malaysia, Suleiman, Abdullah, and Fatima (2014) [20] found that profit margin did not correlate significantly with the quality of environmental data reported. Successful companies, says Abubakar (2017) [1], make better environmental disclosures. Success, according to the studies of Innocent and Gloria (2018) [9], has significant and positive repercussions on the natural environment.

3. Research Design

This inquiry required an ex post facto approach due to the use of historical data.

This is due to the fact that an ex post facto study's independent variables cannot be altered by the researcher. They are resistant to persuasion, after all.

3.1 Population

The Nigerian Stock Exchange Factbook for the years 2010-2020 provides the sample data for this study, which consists of industrial companies trading on the NSE. Fourteen manufacturing companies were chosen at random from the available information for this investigation.

3.2 Model Specification

Based on the data in the study, the following models were constructed:

$$\text{ENV DQ} = \alpha_0 + \beta_1 \text{FIRA} + \beta_2 \text{FSIZE} + \beta_3 \text{BSIZE} + \beta_4 \text{ROA} + \varepsilon \quad (1)$$

Estimation Equation:

$$\text{ENV DQ} = \text{C}(1) + \text{C}(2)*\text{FIRA} + \text{C}(3)*\text{FSIZE} + \text{C}(4)*\text{ROA} + \text{C}(5)*\text{BSIZE}$$

Substituted Coefficients:

$$\text{ENV DQ} = -0.0595912509528 + 0.00130303513272*\text{FIRA} + 0.00378486464312*\text{FSIZE} - 2.67359334623e-05*\text{ROA} + 0.00515616997316*\text{BSIZE}$$

Where:

ENV DQ = Environmental Disclosure Quality

α_i = Fixed intercept element

$d_1 - d_4$ = Coefficient of the regression equation

e = Error term reflecting further un-explanatory variables

FSIZE = Firm Size

FIRA = Firm Age

BSIZE = Board Size

ROA = Return on Asset

4. Descriptive Statistics

Table 1: Descriptive Statistics

	ED	BSZE	FIRA	FSIZE	ROA
Mean	0.061977	10.30519	32.28571	6.985832	2.867401
Median	0.045450	10.00000	35.00000	6.484450	4.206500
Maximum	0.272700	18.00000	53.00000	9.240900	89.54470
Minimum	0.000000	7.000000	2.000000	5.092700	-119.6330
Std. Dev.	0.076162	2.349601	11.36024	1.198926	21.96741
Skewness	1.254017	0.798356	-1.200412	0.619167	-1.776726
Kurtosis	4.102630	2.938574	3.918537	2.031487	14.06369
Jarque-Bera	48.16368	16.38344	42.39922	15.85872	866.4576
Probability	0.000000	0.000277	0.000000	0.000360	0.000000
Sum	9.544500	1587.000	4972.000	1075.818	441.5798
Sum Sq. Dev.	0.887501	844.6558	19745.43	219.9259	73832.77
Observations	154	154	154	154	154

Source: Authors Computation from E-view (2021)

The data showed that board size (BSZE) ranges from 7 to 18, with a mean of 10.30 and a standard deviation of 2.35. Based on these findings, it appears that 10 is the magic number for boards of directors in industrial companies. The median age of a company is 32 years, with a range from 2 to 53 years. The standard deviation is 11.4 years. The youngest manufacturing company is only 2 years old, while the oldest is 53. The range of firm size (FSIZE) is from 5.1 to 9.24, with a mean of 9.36 and a standard deviation of 1.198. The findings show that there is a substantial gap between the largest and smallest enterprises in the industrial sector. Between a loss of 120% and a recovery of 90%, the average return on assets is 3%.

Table 2: Correlation Matrix

Correlation					
Probability	ED	BSZE	FIRA	FSIZE	ROA
ED	1.000000				

BSZE	0.099449	1.000000			
	0.2198	-----			
FIRA	0.133900	-0.352955	1.000000		
	0.0978	0.0000	-----		
FSIZE	0.066611	0.146152	-0.081750	1.000000	
	0.4118	0.0705	0.3135	-----	
ROA	-0.024824	-0.035504	-0.072044	0.042588	1.000000
	0.7599	0.6620	0.3746	0.6000	-----

Source: E-view output

The Pearson Correlation Coefficient for the variables is presented in Table 2. The correlation coefficient between EDQ and ROA turned out to be negative, suggesting a negative association between the two (-0.048244). The correlation coefficient was similarly positive between EDQ

and BSIZE, FIRA and FSIZE (0.099449, 0.133900, and 0.066611). The problem of implausible multicollinearity was highlighted by the finding that no two variables are highly associated.

4.1 Hypothesis testing

Regression Result

Table 3: Regression Result

Dependent Variable: ED				
Method: Panel Least Squares				
Date: 07/15/21 Time: 09:14				
Sample: 2010 2020				
Periods included: 11				
Cross-sections included: 14				
Total panel (balanced) observations: 154				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.059591	0.051567	-1.155597	0.2497
BSIZE	0.005156	0.002801	1.840623	0.0677
FIRA	0.001303	0.000576	2.262430	0.0251
FSIZE	0.003785	0.005146	0.735449	0.4632
ROA	-2.67E-05	0.000279	-0.095818	0.9238
R-squared	0.460004	Mean dependent var	0.061977	
Adjusted R-squared	0.200393	S.D. dependent var	0.076162	
S.E. of regression	0.075381	Akaike info criterion		-2.300582
Sum squared resid	0.846672	Schwarz criterion		-2.201980
Log likelihood	182.1448	Hannan-Quinn criter.		-2.260530
F-statistic	1.796289	Durbin-Watson stat		0.787770
Prob(F-statistic)	0.132542			

Source: Eviews Output

4.2 Discussion of Findings

checks the probability, the t-ratios, and the stated coefficients of the predictive components. With an R² of 0.460004, we may infer that 46% of the dependent variables change and 54% of the variance is unaccounted for. In a similar vein, the independent factors accounted for 20% of the variance in environmental disclosure quality (EDQ) with an adjusted R-squared value of 0.200393. The overall Durbin-Watson of 0.787770 and the predictive F-statistic of 1.796289 both indicate the presence of serial correlation.

First, a larger board was associated with more detailed disclosures about the company's environmental practices. The results are in line with those found by Osazuwa *et al.* (2016) [16], Wang *et al.* (2017) [23], and Ezhilarasi & Kabr (2017) [8]. Nevertheless, different findings emerged from other research. Abubakar found that there is a negative correlation between environmental disclosure quality and (2017) [1].

Evidence for the second hypothesis comes from the discovery of a positive and statistically significant correlation between a company's length of existence and the accuracy of its environmental disclosure policies and practices. Consistent with the findings of Shauibu (2020) [19], Innocent and Gloria (2018) [9], we show that environmental disclosures improve as the age of a Nigerian manufacturing business increases. Nevertheless, Egbunike and Tarilaye (2017) found adverse effects on environmental disclosure quality.

The third hypothesis was supported by the discovery that there was a modest but positive relationship between a company's size and the quality of its environmental disclosures. Many studies, including Nawaiseh's (2015) [13], as well as others' (Uyagu *et al.*, 2017 [21], Joshua *et al.*, 2017, Khalid *et al.*, 2017, Egbunike *et al.*, 2017, Innocent *et al.*, 2018 [9], Gloria *et al.*, 2019, and Shauibu, 2020 [19]), have found that larger companies provide better environmental disclosure. To counter this, Abubakar's (2017) [1] study found that larger companies were less likely to provide thorough environmental disclosures.

Contrary to the expectations of the fourth hypothesis, the quality of environmental disclosure was shown to have a negative and insignificant relationship with return on assets. Consistent with the findings of Abdullah and Fatima (2014), Jariya (2015) [10], and Khalid, Kouhy, and Hassan (2017), the quality of environmental disclosure is adversely and insignificantly altered (2017). A favorable and statistically significant association between environmental disclosure quality and return on asset was discovered by researchers Uyagu, Joshua, and Terzungwe (2017) [21], Abubakar (2017) [1], and Innocent and Gloria (2018) [9].

5. Summary of Findings

The quality of corporate environmental disclosure was investigated. Profitability, board size, age, and company size were among the indicators of business features included in the research. According to the findings of the analysis, business size has a positive but statistically insignificant link with environmental disclosure quality, whereas board size and firm age both have a positive and substantial effect on environmental quality. There is a small but negative correlation between ROA and the quality of environmental disclosure. The findings show that board size and business age are significant factors in the choice to disclose environmental information. Publicizing your company's environmental effect has been shown to boost profits and earn the respect of locals.

5.1 Conclusion

The findings show that board size and business age are significant factors in the choice to disclose environmental information. Publicizing your company's environmental effect has been shown to boost profits and earn the respect of locals.

5.2 Recommendations

The study concludes that industrial firms should be transparent about their environmental initiatives because doing so is positively correlated with firm age. This means that more established businesses are better able to adapt to changing market conditions and are more likely to adopt innovative policies.

5.3 Contribution to knowledge

This study employed different accounting variables (return on assets) that has not been consider by other scholars over the years while considering this topic, while also using recent data that can be use by decision makers for economic decision.

6. References

1. Abubakar AA. Influence of firms attributes on environmental disclosure in listed brewery companies

- in Nigeria. *Research Journal of Finance and Accounting*. 2017; 8(21):31-35.
2. Al-Bassam WM, Collins G, Ntim Kwaku K, Opong, Yvonne Downs. Corporate Boards and Ownership Structure as Antecedents of Corporate Governance Disclosure in Saudi Arabian Publicly Listed Corporations. *Business & Society*. 2018; 57(2):335-377.
3. Cormier D, Ledoux M, Magnan M. Social and Environmental Disclosure: Substitute or Complement, n.d.
4. Cunha V, Rodrigues LL. Determinants of structure of corporate governance disclosure in Portugal. *Review of Business Management*, 2018. Doi: 10.7819/rbgn.v0i0.3359
5. Dibia NO, Onwuchekwa JC. Determinants of environmental disclosure in Nigeria: A case of oil and gas companies. *International Journal of Finance and Accounting*, 2015, 145-152.
6. Egolum PU, Amahalu NN, Obi JC. Effect of Firm Characteristics on Environmental Performance of Quoted Industrial Goods Firms in Nigeria. *International Journal of Research in Business, Economics and Management*. 2019; 3(6):1-13.
7. Elmagrhi MH, Collins G, Ntim Wang Y. Antecedents of Voluntary Corporate Governance Disclosure: A Post-2007/08 Financial Crisis Evidence from the Influential UK Combined Code, 2016.
8. Ezhilarasi G, Kabra KC. The impact of corporate governance attributes on environmental disclosures: Evidence from India. *Indian Journal of Corporate Governance*. 2017; 10(1):24-43.
9. Innocent OC, Gloria OT. Firm attributes and corporate environmental performance: Evidence from quoted industrial firms on Nigerian stock exchange, *Journal of Economics, Business and Management*. 2018; 5(9):854-863.
10. Jariya A. Determinants of environmental disclosure in annual reports of srilankan manufacturing companies. *Journal of Management*. 2015; 12:99-112.
11. Liao L, Luo L, Tang Q. Gender diversity, board independence, environmental committee, and greenhouse gas disclosure. *British Accounting Review*. 2015; 47(4):409-424.
12. Mallin C, Michelon G, Raggi D. Monitoring intensity and stakeholders' orientation: How does governance affect social and environmental disclosure? *Journal of Business Ethics*. 2013; 114(1):29-43.
13. Nawaiseh ME. Do firm and financial performance corporate social responsibility disclosure: Employees' and environment dimensions. *American Journal of Applied Sciences*. 2015; 12(12):967-981.
14. Amahalu NN, Egolum PU, Obi JC. Effect of e-accounting systems on financial performance of quoted deposit money banks in Nigeria. *Faculty of Management Sciences, 2019 International Conference Proceedings, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria, 2019, 437-449.*
15. Ntim CG. Board diversity and organizational valuation: Unravelling the effects of ethnicity and gender. *Journal of Management & Governance*. 2015; 19:167-195.
16. Osazuwa NP, Che-Ahmad A, Che-Adam N. Board characteristics and environmental disclosure in Nigeria. *Information (Japan)*. 2016; 19 (18A):3069-3074.
17. Samaha K, Dahawy K, Hussainey K, Stapleton P. The extent of corporate governance disclosure and its determinants in a developing market: The case of Egypt. *Advances in Accounting*. 2012; 28(1):168-178.
18. Setyoini CT, Ishak Z. Corporate social and environmental disclosure: A positive accounting theory view point. *International Journal of Business and Social Sciences*. 2012; 2(3):153-164.
19. Shuaibu K. Firm Characteristics and Environmental Disclosure Quality of Listed Cement Companies in Nigeria. *African Scholar Journal of Mgt. Science and Entrepreneurship*. 2020; 18(7):105-118.
20. Suleiman S, Abdullah N, Fatima AH. Determinants of environmental reporting quality in Malaysia. *International Journal of Economics, Management and Accounting*, 2014, 63-90.
21. Uyagu DB, Joshua O, Terzungwe N. Effect of firm characteristics on environmental reporting practices of listed manufacturing firms in Nigeria, *Nigerian Journal of Management Sciences*. 2017; 6(1):139-148.
22. Votsi NEP, Kallimanis AS, Pantis ID. An environmental index of noise and light pollution at eu by spatial correlation of quiet and unlit areas. *Environmental Pollution*. 2017; 221:459-469
23. Wang MC. The relationship between firm characteristics and the disclosure of sustainability reporting. *Sustainability (Switzerland)*. 2017; 9(4):624-637.