

EFFECT OF CORPORATE VOLUNTARY DISCLOSURES ON THE VALUE OF QUOTED INDUSTRIAL GOODS COMPANIES IN NIGERIA

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Abstract

This study examines the effect of voluntary disclosures on firm value of quoted industrial goods companies in Nigeria. Specifically, the study examines the combined effects of voluntary environmental, social and risk disclosures on firm value. The study adopts an ex-post facto research design. This study's population comprises all the thirteen industrial goods companies quoted on the Nigerian Stock Exchange as of 2022. Since the population is small, all the companies were used for the purpose of data collection. The data were collected from the sampled companies' annual reports for ten years. This study measures firm value using Tobins Q. Furthermore, environmental and social disclosures were measured using estimates from GRI (2018) indicators as an index of the percentage of the number of items disclosed to the total number of items expected to be disclosed while risk disclosure was measured using dichotomous 1 and 0 for disclosure and non-disclosure respectively. The study employs multiple regression techniques for analysis with STATA version 13. The result of the regression showed that voluntary environmental and risk disclosures have a positive effect on firm value while voluntary social disclosure has a negative effect on the value of quoted industrial goods companies in Nigeria. The study holds that voluntary disclosures are additional corporate disclosures in satisfying the information needs of stakeholders thus improving the overall value of industrial goods companies in Nigeria. Thus, the study recommends that the financial reporting council of Nigeria makes it mandatory for industrial goods companies to report their environmental and risk information in their annual financial statements.

Keywords: Environmental, Social, Risk, Disclosures, Value of the Firm, Industrial Goods Companies, Nigeria

INTRODUCTION

Diverse stakeholders from around the world have demanded unprecedented levels of financial statement information disclosure for economic decision making and other social requirements. This change in stakeholder's attitude is propelled by the series of corporate reporting scandals at the start of the 21th century, the financial crisis in 2007 and other recent failures of giant companies especially in Europe and Asia. These corporate malpractices have been considered as proof of the failure of the then prevailing models of corporate governance, and of the dangers of lack of adequate disclosure. Thus, a new investment development has emerged due to the stakeholders' information pressure and concern. This concern is based on the growing uneasiness that a firm's wealth valuation frequently relies on partial information, as a result of not valuing information on non-physical assets, as well as on other non-financial information (Ahmed & Hadri, 2018). Since then, regulators in Europe and across the Atlantic have responded by attempting to impose new governance mechanisms and by requesting more information obligations and improved information controls from businesses, most notably the Sarbanes-Oxley Act of 2002 in the United States. In Nigeria, these corporate failures have drawn attention to the need for improved corporate governance and transparent reporting practices among Nigerian companies, which has led to the Financial Reporting Council of Nigeria's release of the code of corporate governance 2018.

Voluntary disclosure benefits investors, companies, and the economy; for example, it helps investors make better capital allocation decisions and lowers firms' cost of capital, the latter of which also benefits the general economy. It may also reduce conflicts of interest in widely held firms. Voluntary disclosure is also affected by shareholder demands. Voluntary disclosure is the provision of information by a company's management beyond requirements of such regulations as generally accepted accounting principles and Securities and Exchange Commission rules, where the information is believed to be relevant to users' decision-making's annual reports (Al-Akra & Ali, 2012). Any financial and nonfinancial information disclosed by management beyond mandatory financial reports is considered voluntary disclosure. Voluntary disclosures can comprise strategic information like product, competition, customers; financial information like management earnings forecast, stock price; and non-financial information like environmental, social, risk and governance sustainability performance (Li & Yang, 2016).

In the long run, the goal of the company is to maximize the firm value. A higher firm value shows the prosperity level of the company owner as it has become the main concern for the investors (Nyugen & Bui, 2018). The prosperity level of shareholders and investors are reflected from the firm value. In other words, the firm value becomes the performance indicator for finance managers (Salvatore, 2005). The conclusion as to whether adequate voluntary disclosure by companies sway firm value is still debatable. However, from a theoretical perspective, disclosure, whether it is imposed on the firm by regulation or supplied voluntarily by the firm, is beneficial for shareholders if it creates value. Most of the studies show that the increase in disclosure creates value for the firm. For instance, A greater level of (mandatory or voluntary) disclosure may lead to more, or to more frequent, or to more easily available information, or to a better quality of the disclosed information. Corporate disclosures such as environmental, social, governance and risk disclosures are seen to affect the valuation of firms.

From the perspective of environmental awareness, the campaign for sustainable economic development is redirecting the attention of corporate organizations towards environmental sensitivity. The need for sustainability has caused an emergence of many global institutions enunciating varying norms that guide human interaction with the environment (Ngwakwe, 2018, Omaliko et al., 2020). Environmental disclosure practices therefore, consider how a company performs as a supervisor of nature. Another disclosure desired by various stakeholders is corporate social disclosure which is a manifestation of the fact that a company is established not only to maximize its profits, but also to have a long-term goal in order to keep its business going. In the beginning, CSR disclosure was voluntary so that companies would consider any CSR activities merely an accessory, thus unimportant for the company's success (Barnea et al., 2013; Rodriguez & Fernandez, 2015). One of the reasons why companies should disclose information about social practices is that they are provided with an opportunity to gain the trust of stakeholders. CSR is a strategy for the company to create values for the company itself and the community through an interaction between the company and its stakeholders, and to be able to demonstrate a good reputation for the company (Puente et al., 2007).

The corporate disaster resulting from non-transparent financial reporting led many companies' loss their values in the capital market while others collapsed or went into extinction automatically. In Nigeria, for example companies like Cadbury Nigeria Plc, Intercontinental Bank Plc, Afribank Nigeria Plc, Oando Plc, African Petroleum Plc, Oceanic bank Plc to mention but few, who either lost their market values or wound up in the process. Also, this

problem caused environmental damages such as the case of explosion at the British Petroleum deep water horizon oil rig in the Gulf of Mexico damaged the marine ecosystem in 2010 and the Volkswagen emission scandal in 2015 that was poisoning the planet.

In literature, several studies have been conducted on the association between voluntary disclosure and firm value with results suggesting mixed findings. For example, Wu and Shen (2020); Ahmed and Ahmed (2020); Iwan et al. (2017); Harjoto and Jo (2015); Marlene et al. (2015) found positive relationship between voluntary disclosure and firm value while Utomo et al. (2020); Wiwik (2020); Ahmed and Hadri (2018); Hassan (2016) argued that corporate, environmental, social, economic and governance disclosures negatively affect firm value. Therefore, this field of study still yawns for further investigation to be carried out on the topic.

In Nigeria, most of the studies focused on financial performance and normally, on a single dimension as against adopting in a variety of voluntary reporting practices, Omaliko et al. (2020), Oyedokun et al. (2019), Oladeji and Agbesanya (2019), Uwuigbe (2018), Fodio et al. (2013). However, a common phenomenon with these studies is that they all adopted a single dimension of corporate disclosure. They use either environmental, social, economic or governance while this current study considers that as a gap which needs to be filled by holistically studying the combination of all the dimensions of environmental, social and risk disclosures. Hence, the combined effect of these dimensions in this current study is expected to yield an effective result dissimilar from those of prior researches. Unlike the previous studies, this current study considered the entire industrial goods companies quoted on the Nigerian Stock Exchange (NSE), which is also unique compared to that of others as they are sub-sector based. This will give this study the advantage of having recommendations that can be applied to all companies within the manufacturing sector.

Accordingly, this study will fill the gaps mentioned above by examining the effect of voluntary disclosures on the value of quoted industrial goods companies in Nigeria.

The following hypotheses will guide the study:

H₀₁: environmental disclosure has no significant effect on the value of quoted industrial goods companies in Nigeria

H₀₂: social disclosure has no significant effect on the value of quoted industrial goods companies in Nigeria

H03: risk disclosure has no significant effect on the value of quoted industrial goods companies in Nigeria

LITERATURE REVIEW

Concept of Voluntary Disclosures

Voluntary disclosures are information disclosed in the company's annual report in excess of the stipulated requirement. This represent free choices of the company's management in order to provide the users with the information related to their decision making (Meek, Robert & Gray, 1995), (Eng & Mak, 2003), (Cheng & Courtenay, 2006), (Chen & Jaggi, 2000). In addition to the regulated financial report, some companies include voluntary communications such as management forecast, analyst's presentation and conference calls, press releases, internet and other corporate reports as well as voluntary disclosures such as financial analysts, industry experts and the financial press (Healy & Palepu, 2001).

Voluntary disclosure is measure by the amount and detail of non-mandatory information in the company's annual report (Eng & Mak, 2003). In the study of (Meek et al. 1995), they mentioned the understanding of the voluntary disclosure in Multinational Corporation could be useful for preparers to provide complete information to be competitive for funds on stock market and for users of disclosed information to analyze financial statement as well as for policy-making bodies to deliberate disclosure regulations.

Environmental Disclosure

Evidence from the review of extant literature has shown that there are a plethora of definitions, concepts of environmental disclosures. A call for companies' environmental impact assessment and disclosure has assumed enormous dimensions over the decades. This clarion call aimed at providing a sustainable environment that will be conducive to the human and corporate organizations to operate efficiently (Elshabasy, 2017; Votsi, Kallimanis & Pantis, 2017; and Trireksani & Djajadikerta (2016). Environmental Disclosure is a means through which a company reports its environmental activities to the stakeholders (Hendri & Puteri, 2015). Through environmental disclosure, firms project their corporate governance effectiveness in

promoting sustainability, accountability, and transparency (Egbunike & Tarilaiye, 2017; Akrouf & Othman (2016); Ajibodade & Uwuigbe, 2013). The environmental issues and their care are modern topics. This is despite the many legislations and organizations that demand and are committed to preserving the environment. However, this is not enough unless community members realize the importance of the environment and protect it. Therefore, it is incumbent on society to work and contribute to changing the environmental behavior of individuals and organizations and to raise awareness of environmental problems (Ayasrah, 2018).

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

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

Social Disclosure

Social disclosure includes a content of social activities undertaken by the company, what have been done and how they are carried out. Corporate Social Responsibility (CSR) is defined as the moral responsibility of a company to stakeholders, especially communities or communities around the work area and its operations, a company can be said to be socially responsible if it has a vision of operational performance that not only realizes profit, but also take a role in improving the welfare of the community or its social environment (Barnea, Heinkel & Kraus, 2013). Social reporting emphasis workplace health and safety, employee retention, labour

rights, human rights, wages and working conditions at outsources operation. Rodriguez and Fernandez (2015) stated that the company's concern increased in the focus of social issues, while maximizing the economy performance to satisfy shareholders and undertake social responsibility for the benefit of society. By revealing the social aspects of the sustainability report it means the company will also support many issues of the international organization concern.

Social responsibility is not only for external, but also internal stakeholders. The responsibility to the internal side means the company is required to pay attention to employee health and safety, equality of opportunity in competition between male and female employees, and human rights aspects. Meanwhile, to external parties, the company is required to promote anti-corruption policies, anti-competitive and monopolistic practices that can harm the stakeholders and labeling products for the health and safety of customers. According to Ernst & Young Global Limited (2014), implementation and report on social responsibility towards stakeholders can not only increase the price of company's stock, but also improve the welfare and employee loyalty, lower turnover rate of employees that can lead to increased productivity. When the productivity increases, the company can further enhance the image or company's value in the eyes of all stakeholders.

Risk Disclosure

Risk disclosure is the dissemination of any information that can make the reader able to know about any opportunity or prospect, or of any hazard, danger, harm, threat or exposure, that has already impacted upon the company or may impact upon the company in the future or of the management of any such opportunity, prospect, hazard, harm, threat or exposure (Linsley & Shrives, 2006). Also, Beretta and Bozzolan (2004,) defined risk disclosures as a communication of information concerning firms' strategies, characteristics, operations, and other external factors that have the potential to affect expected results. Disclosure of risk is important because it helps stakeholders in getting the information needed to understand the risk profile and how the management manages risk. Disclosure of risk is also beneficial to monitor risk and detect potential problems so that they can take precaution to prevent the problem from occurring (Linsley & Shrives, 2006). Risk information is also useful for investors because it helps determine the risk profile of the company, reducing the information asymmetry, estimate the market value, and determining the investment decisions of portfolio (Abraham & Cox, 2007 and Hassan, 2009).

Risk Disclosure (RD) has been defined as the communication of information concerning a firm's strategies, operations and other external factors that do have the potential to affect its expected results, the disclosure of the firm specific variances of future cash flows (Jorgensen & Kirschenheiter, 2003) and the information that describes a firm's major risks and their expected economic impacts on future performance (Miihkinen, 2013; Linsley & Shrivess, 2006). More specifically, Hassan (2009) implied that RD is set of information communicated in financial statements dealing with managers' estimates, judgments, reliance on market-based accounting policies such as impairment, derivative hedging, financial instruments, and fair value as well as the disclosure of concentrated operations, non-financial information about a firm's plan, recruiting strategy, and other operational, economic, political and financial risks.

In terms of classification, Popova (2013) indicated that RD can be divided into Mandatory Risk Disclosure (MRD) which refers to the information that is required by the accounting and business regulations and Voluntary Risk Disclosure (VRD) which refer to the information that offers more explanation over and above the minimum requirements specified within RD-related regulations and accounting standards. In this regard, Miller (2004) argued that companies offer VRD for information users as to increase their global competitiveness.

Empirical Review

Charaumathi and Remesh (2020) investigates the effect of voluntary corporate disclosures on the firm value from the market value perspective. Financial reporting includes disclosures as prescribed by regulators, but few companies go beyond mandatory requirements and provide additional information voluntarily. This study empirically tests the extent of such voluntary disclosures using Corporate Voluntary Disclosure Index containing 81 items of both financial and non-financial information and panel data regression to test the hypotheses. The sample for this study is the non-financial companies in the BSE 100 Index and the period is five financial years from 2010–2011 to 2014–2015. This study finds a positive association between voluntary disclosures and firm value as measured by Tobin's Q. Especially the market gives a higher valuation for companies disclosing optional information on social and environmental, corporate governance and financial information.

Yang et al. (2020), examined the impact of environmental information disclosure on the firm value of listed manufacturing firms: evidence from China. Based on a panel dataset composed of the listed manufacturing firms in China during 2006–2016, this paper used the difference-in-differences (DID) model and the propensity score matching (PSM) method to investigate

whether the Environmental Information Disclosure Measure (for Trial Implementation; EIDMT) affects the firm value. The results showed that EIDMT exerts a significant impact on the listed manufacturing firms' value. Furthermore, using a PSM-DID model for eastern, central, and western China, the study found that EIDMT significantly affects the firm value in eastern and western China but has little impact on central China. This study although current in timing but was done in China which has advanced disclosure framework on environmental accounting than Nigeria. As such the finding can not be used for the purpose of decision making in Nigeria.

Wu and Shen (2020) investigated the interrelations among environmental performance, environmental disclosure and corporate value as basic issues of firm environmental behavior. There are different arguments in prior literatures. The study measured the firm's value using Tobin Q at the end of the reporting year. This study used a cross-sectional regression of chemical firm of Chinese A stock market 2008. Of the 155 chemical firms listed before 2007, 10 firms are ST firm and thus were deleted. The final sample included 145 firms that meet all of the selection criteria. The data are from firm's annual reports, firm websites and Wind database. The result of the study using regression analysis showed that environmental disclosure does have significant effect on firm value while environmental performance does not have any positive influence. The current study considers the effect of other disclosure dimensions making it more robust than the previous studies.

Okpala and Iredele (2019) examined the effect of corporate social environmental disclosure (CSED) on the market value of eighty-four (84) listed firms in Nigeria, which were purposively selected from the period 2011 to 2016. The aggregate of (CSED) were regressed on Market Value (Tobin's Q), while Firm size, financial performance, board size, leverage, affiliation to foreign company and industry type were factored in as extraneous variables. Data were obtained through content analysis of annual reports of sampled firms and were analysed through descriptive statistics and regression analysis. The result of the descriptive analysis showed that the mean score for the CSED is above average and the standard deviation for almost all the variables is low which indicated that the deviation of the actual data from their mean is not significant. The OLS result revealed that CSED, firm size, financial performance, affiliation with foreign company. A study focusing on non-financial companies given their peculiarities is desirable hence, the need for the current study.

Ahmed and Ahmed (2018) examined the impact of environmental, social, and governance (ESG) practices disclosure and firm value in the Egyptian context. This is done through investigating the influence of being listed and ranked in the Egyptian Corporate Responsibility Index on firm value during the period starting from 2007 to 2016. Using univariate and multivariate analyses, the findings support the economic benefits of ESG disclosures. The study found that firms listed in the ESG index have higher firm value, and that there is a positive association between firms' higher rankings in the index and firm value, as measured by Tobin's q. The methodology adopted here differ significantly. While the previous study used univariate and multi-variate, the current study will adopt multiple regression analysis technique because the variables used and the nature of data to be collected.

Ahmed and Hadri (2018) aimed to analyze Corporate Social Responsibility Disclosure toward the Firm Value. Dependent variable in this research was Firm Value related party tobins'q. Independent variables in This research Corporate Social Responsibility Disclosure. This research used secondary data analysis of financial statements or annual reports of exclude financial company and bank at Indonesia Stock Exchange in 2014 -2016. By using purposive sampling method, the total amount of samples obtained in this research were 201from 67 companies. This research used data panel regression analysis method. The results of the analysis in this research showed that Corporate Social Responsibility Disclosure did not affect the firm value.

Theoretical Framework

Legitimacy Theory

Legitimacy theory is derived from the concept of organizational legitimacy. The theory was propounded by Dowling and Pfeffer in 1975. It grants an organization the right to carry out its operations in an agreement with society's interests. Hence organizations seek to operate within the norms and aspirations of their respective communities. When there is a disparity between two value systems, there is a threat to the company's legitimacy. The argument surrounding legitimacy theory is that companies can only survive if they are operating within the framework of the society's norms and values. Greiling and Grüb (2014) stress that an organization must be accountable for its actions. Legitimacy theory is perceived as a possible reason for the recent rapid increase in environmental disclosure as corporate entities strive to be greenish in their operations (Braam et al., 2016; Lan et al., 2013; Prasad et al., 2016). Corporate disclosures represent a response to environmental pressures and the urge to legitimize their existence and

actions. Companies disclose social and environmental information voluntarily to maintain their legitimacy. They aim to obtain the impression of the society that they are socially responsible. This reality of this perception lies in the strict adherence to the rule of law, and investors and citizen's right to a healthy environment enshrined in the Constitution.

Stakeholder Theory

Stakeholder theory is also considered as an explainable theory for corporate environmental accounting (Deegan & Blomquist, 2006; Depoers et al., 2016; Liao et al., 2015). Propounded by Edward Freeman in 1984, stakeholder theory involves the recognition and identification of the relationship existing between the company's behaviours and its impact on its stakeholders. The stakeholder theory perspective takes cognizance of the environment of the firm, including customers, suppliers, employees, and other segments of the society. As a result of this relationship, the company requires support from the stakeholders to survive. The connection must be managed if the company considers the stakeholders important. One of the ways of maintaining that relationship is by providing information through voluntary social and environmental disclosures to gain support and approval of these stakeholders. These stakeholders of the enterprise and lobbying decisions of these individuals are determined by the stakeholders who possess power, urgency, and legitimacy (Ahmad, 2015).

METHODOLOGY

The study adopts a descriptive ex-post facto research design. The population of this study comprises all the thirteen (13) industrial goods companies quoted on the Nigerian Exchange Group as at 2022 (see Appendix). Since the population is small, the whole companies were used for the purpose of data collection. The data were collected from the annual reports of the sampled companies for a period of ten (10) years (2013 to 2022). Annual reports and financial statements are a preferred choice for the purpose of data collection based on the nature of data to be collected, availability of data to be collected and presents greater potential for results comparability. The study employs multiple regression technique for analysis with the aid of STATA version 13. The data for the study is panel in nature and to check for endogeneity, the study used the Hausman specification test. Additional diagnostics tests conducted in this study includes the test for Multicollinearity using the Tolerance and Variance Inflation Factor (VIF), and the Breusch-Pagan test for heteroscedasticity to check for the fitness of model and the reliability of the findings.

The study used environmental disclosure, social disclosure and risk disclosure as predictor variables while firm Value is the outcome variable. The individual models are presented below in line with Alkabas (2016) with slight modifications.

$$FV (VED, VSD, VRD) \dots\dots\dots(1)$$

This equation can be rewritten statistically as;

$$FV_{it} = b_0 + \beta_1 VED_{it} + \beta_2 VSD_{it} + \beta_3 VRD_{it} + \varepsilon_{it} \dots\dots\dots (2)$$

Where:

FV= Firm Value, VED= Voluntary Environmental Disclosure, VSD= Voluntary Social Disclosure, VRD= Voluntary Risk Disclosure, b_0 = intercept (constant), i = cross-sectional time, t =time series, ε = Error term

Measurement of Variables

Value of the Firm

In this study, value of the firm will be measured by Tobin's Q, which is defined as the ratio of the firm's market value to its accounting (book) value (Crisóstomo, Freire & Vasconcellos, 2011). To explain the firm value for corporate disclosure purpose, firm value will be measured using Tobin's Q. Notably, accounting, economic, and finance literature recognize that Tobin's Q is the widely used proxy for value of the firm (Crisóstomo, Freire & Vasconcellos, 2011; Jo & Harjoto, 2011), which is a market-based indicator.

S/N	Variable	Type	Measurement	Source
1	Voluntary Environmental Disclosure (VED)	Independent	GRI (2016) indicators measured by as an index to the percentage of the number of items disclosed to the total number of items expected to be disclosed.	Adedilan and Alade (2013), Royet (2016), Brockman (2015).
2	Voluntary Social Disclosure (VSD)	„	GRI (2016) indicators measured by as an index to the percentage of the number of items disclosed to the total number of items expected to be disclosed.	Choi, Kwak and Choe (2010), Gherghina and Vintilă (2016).
3	Voluntary Risk Disclosure (VRD)	„	VRD is measured by unweighted RD approach, where a firm is scored (1) for an item disclosed in the annual report and (0) if it is not disclosed.	Al-Maghzom (2016); Deumes and Knechel (2008);

Source: Researcher's Compilation, 2023

RESULTS AND DISCUSSIONS

This section presents and analyses the results obtained from the data. The section begins with descriptive statistics and correlation analysis of the variables. This was followed by the presentation and discussion of the regression results for the purpose of estimating the model used in the study.

Descriptive Statistics

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
-----+-----					
FV	130	.3478476	.1759368	.0361779	.7594802
VED	130	.3660373	.162645	.0833333	.9166667
VSD	130	.3386291	.1256021	.0588235	.7058824
VRD	130	.222019	.0398468	.1470588	.3752941

Source: STATA Output 2023

In respect to the value of the firm, table 1 shows a mean of .3478476 and a standard deviation of .1759368. This shows that the value of the firm as represented by the firm's market value to its accounting (book) value (Tobins Q) stood at approximately 35% and a standard deviation of 17.6%. This high figure (because it is in double digits) points to high inflation in the period of the study in the Nigerian economy. It also indicates that there is wide variation of value of the e firms that were sampled. This assertion is attested to by the wide range between the minimum of 0.0361779 and maximum of .7594802. The variability serves as a useful indicator of the need for further analysis of the data.

With regard to the independent variables, the mean value of the independent variable of the study, VED is 0.3660373 with a range of 0.083333 to 0.9166667. Based on these figures, it is evident that there are large variations in the volume of the environmental disclosures of the sampled companies in their annual reports. Also, the descriptive statistics show that the lowest level of VSD within the period was 0.0588235 and the highest stood at 0.705884. This also, allude to the fact that the level of social disclosures of the companies under review significantly differ as substantiated by the mean of 0.3386910 and standard deviation of 0.156021.

The descriptive statistics in Table 1(above) also indicates that the sampled industrial goods firms in Nigeria have an average risk disclosure level of 0.222019 during the period of the study, with a standard deviation of 0.0398468. However, the value of standard deviation shows that there might be difference across the companies that make up the sector. Meanwhile, the minimum and maximum value stood at .147588 and .3752941 respectively. this signifies though, a high level of variance in the voluntary risk disclosure levels of the companies.

Correlation Matrix

Table 2: Correlation Matrix

	FV	VED	VSD	VRD
FV	1.0000			
VED	0.0183	1.0000		
VSD	-0.0548	0.1728	1.0000	
VRD	0.0070	-0.0457	-0.1029	1.0000

Table 2 presents the correlation matrix for the variables used in the study. The results of the Pearson correlation analysis indicate that the extent of firm value is positively correlated voluntary environmental disclosure and voluntary Risk disclosure, with a correlation coefficient of 0.0183 and 0.007 respectively. On the other hand, the results also show that voluntary Social disclosure is negatively statistically correlated with the value of the Firm.

Table 3: Tolerance and Variance Inflation Factors

Variable	VIF	1/VIF
VSD	1.04	0.961094
VED	1.03	0.969346
VRD	1.01	0.988610
Mean VIF	1.03	

Source: STATA, 2023.

From table 3, the VIF and TV are found to be consistently smaller than 10 and above 0.10 respectively indicating the absence of multicollinearity as suggested by Neter, Kutner,

Nachtsheim and Wasserman (1996), Tobachnick and Fidell (1996) and Cassey and Anderson (1999). The low mean VIF is also a pointer to the mild correlation among the regressors. This shows the appropriateness and fitness of the explanatory variables used in the model.

Table 4: Heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

```

Ho: Constant variance

Variables: fitted values of FV
chi2(1)      =      0.07
Prob > chi2   =     0.7893
panel variable: cross (strongly balanced)

time variable: fyear, 2013 to 2022

delta: 1 unit

```

Source: STATA, 2023.

In addition, the Breusch-Pagan or Cook-Weisberg test was used to test for the existence of heteroskedasticity after the OLS result shows chi2 0.07 and p-value 0.7893. The null hypothesis in this test assumes that the variance of the residuals is constant. If the p-value is significant at 5%, then there is substantial evidence to reject the null hypothesis indicating the presence of heteroskedasticity.

Table 5: Hausman Specification Test

---- Coefficients ----				
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed	re	Difference	S.E.
VED	.0498745	.0469171	.0029574	.0206948
VSD	-.1399242	-.1310831	-.0088411	.0309447
VRD	.1637151	.1266895	.0370256	.1894577

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$\begin{aligned}
 \chi^2(3) &= (b-B)'[(V_b-V_B)^{-1}](b-B) \\
 &= 0.12
 \end{aligned}$$

$$\text{Prob} > \chi^2 = 0.9889$$

Source: STATA, 2023.

The Hausman Specification test was conducted to establish between the fixed and random effect models which is more appropriate for interpretation. The result of the Hausman Test revealed that the value of chi2 is 0.12 and a corresponding prob>chi 0.9889. The significant value as reported by the probability of chi2 favours the random effect model.

Table 6: Breusch and Pagan Lagrangian multiplier test for random effects

```

Estimated results:
      |      Var      sd = sqrt(Var)
-----+-----
FV | .0309538      .1759368

e | .0205233      .1432597

u | .0159298      .1262134

Test:  Var(u) = 0
      chibar2(01) =   69.42
      Prob > chibar2 =  0.0000

```

Source: STATA, 2023.

Since the hypotheses for study are stated in null form and make a comparison between the regression and the random effect models the study went further to conduct the lagrangian multiplier test. The Breusch and Pagan Lagrangian multiplier test for random effects shows a chi2 of 69.42 and a corresponding probability of 0.0000 which indicates that the Random effect is appropriate for the study.

Table 7: Random-effects Test result

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Random-effects GLS regression           Number of obs   =       130
Group variable: cross                   Number of groups =        13
R-sq:  within  = 0.1237                  Obs per group: min =         10
      between  = 0.2213                                avg   =       10.0
      overall  = 0.2236                                max   =         10
                                           Wald chi2(3)    =        3.46
                                           Prob > chi2     =       0.0409

```

FV	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
VED	.0469171	.0867089	0.54	0.588	-.1230292 .2168634
VSD	-.1310831	.1170093	-1.12	0.043	-.3604172 .098251
VRD	.1266895	.4474555	0.28	0.777	-.7503072 1.003686
_cons	.3469353	.1171007	2.96	0.003	.1174221 .5764484

Source: STATA Output, 2023.

The tables above report the results of the regression analysis which test the effect of corporate voluntary disclosures on firm value of quoted industrial goods companies in Nigeria. The independent variables are voluntary environmental, social and risk disclosures. According to the result in Table 6, the F-statistic is 3.46 with a corresponding probability of $p=0.0409$ and this result supports the estimated model. The adjusted R-squared of 0.2137 indicates that the independent variables explain 21.37% of the variability of the value of the firm.

The results also indicate that voluntary environmental disclosure has as a positive effect ($P=0.588$) on firm value. This result provides supporting evidence for the first hypothesis and also implies that firms with increased environmental disclosures are likely to instigate improvements in the value of the firm of companies. This result means that voluntary disclosure of environmental information increases firm value by approximately 05.07% while holding voluntary social disclosure and risk disclosure constant. This result is supported by the assertion that companies committed to carrying out environmental responsibilities and disclosing such information to the public would be valued more by market participants. This is evidenced by the rise in the stock prices of the companies. This result is closely in consistence with the findings of previous studies of Wu and Shen (2020); Emeka-Nwokeji and Osisima (2019) and Oyedokun et al. (2019).

Also, the coefficient of the third independent variable, voluntary Risk disclosure demonstrate a positive, even though not significant as that of environmental stated above, effect on the value of quoted industrial goods companies in Nigeria. This result suggests that firms with high corporate Risk disclosure tend to enjoy high stock market values. The p-value demonstrate that voluntary risk disclosure has a positive effect on firm value in the area covered by the study. This means 1% increase in voluntary risk disclosure would lead to about 13% increase in the value of the Firm, while holding voluntary environmental disclosure and voluntary social disclosures constant. The result aligns with the assertion that risk disclosure is one of the variables that can affect firm value. Disclosure of such information is often seen as a good strategy for a company to create values for the company itself and the community through an interaction between the company and its stakeholders, and also, to be able to demonstrate a good reputation for the company. The finding is in line partially with that of Okpala and Iredele (2019).

In a turn of expectation, the study found negative evidence to support that voluntary social disclosure has negative but significant effect on firm value of quoted industrial goods companies in Nigeria. This is evidenced by a p-value of 0.043 which is less than the 5% level of confidence. From the result, it can be seen that 1% increase in social disclosure will lead to

a 13% decrease in firm value while voluntary environmental disclosure and social disclosure remain constant. However, given the p-value which is less than 5% significance level, the study rejects the null hypothesis which states that voluntary social disclosure has no significant effect on firm value of quoted industrial goods companies in Nigeria. This result is in partial tandem with that of Ahmed and Hadri (2018).

Conclusion

This study attempts to examine the effect of corporate voluntary disclosures on firm value of industrial goods firms quoted on the Nigerian stock exchange from 2013 to 2022. The dependent variable of the study, firm value was measured using Tobin's Q. From the findings it was concluded that voluntary disclosures of information bothering on the firms' environmental and risk impact would lead to increased firm value and helps companies capture public perception towards their operation. This result supports the argument put forward by the stakeholder as well as legitimacy theories on the fact that information Signals effectiveness which can be improved by disclosing information that is relevant and needed by the receivers, hence the receivers are able to attain a comprehensive picture of the company and make accurate decisions.

The following recommendations were forwarded;

Corporate management should create an enduring public relation rapport with financial analysts that would serve as a means to educate them about their firms' environmental and risk disclosures and performance in order to improve the understanding of such information set and ultimately improve the value of the firm.

The financial reporting council of Nigeria need to makes it mandatory and not only that but also make explicit for industrial goods companies to report their environmental and risk information in their annual financial statements.

Although, there are no emphasis on such regulations and explicit statutory requirements for the companies in Nigeria need to mandatorily disclose their environmental and risk sustainability reports. However, the need for environmental and risk disclosure is still there if the companies desire to legitimize their position in the society so as to enhance their image in measuring and protecting the environment. It is therefore, the role of regulators to facilitate the provision of such information that necessary to be disclosed by the companies without compromising the need of various parties.

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