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Sustainability Reporting Practice and Financial Performance of Listed Industrial Goods Firms in Nigeria

Israel S. Akinadewo[1*], Olusola B. Adebayo[1], Oluyinka I. Oluwagbade[1], Omobolade S. Ogundele[2], Adebola Abass Jabar[1]
[1]Department of Accounting, Afe Babalola University, Ado-Ekiti, Ekiti State, Nigeria
[2]Department of Accounting & Finance, Kings University, Odeomu, Osun State, Nigeria

ABSTRACT

This study investigated the effect of sustainability reporting practices on the financial performance of listed industrial goods firms in Nigeria. The study adopted an ex-post facto research design and made use of secondary data sourced from annual reports and accounts of the sampled firms. The research work adopted panel data analysis to estimate the relationship between the variables and also used descriptive statistics of mean, standard deviation, minimum and maximum values. The result of the analysis showed that economic sustainability practice has a positive but insignificant relationship on change in total asset with probability value of 0.569 and positive significant relationship on change in stock price to the tune of 0.034. Environmental sustainability practice has a positive and significant impact on the financial performance (captured with change in total asset and change in stock price with probability value of .025 and .012 respectively) while community involvement sustainability practice has a positive and insignificant relationship on financial performance of the listed firms to the tune of 0.557 and 0.875. The study, therefore, concluded that there is significant impact of environmental sustainability reporting practice on financial performance of listed industrial goods firms in Nigeria. The study recommended that the management should as a matter of fact integrate sustainability practices so that the impact can be felt on financial performance of firms.

Keywords: Community disclosure, Environmental sustainability, Economic sustainability, Financial performance

INTRODUCTION

Globally, maximizing the interest of shareholders has been the major aim of corporate strategy of many firms such as manufacturing firms. Concerns had been raised over the activities of most companies and their negative effect in terms of economic, social, and environmental on man and the environment as result of global warming, environmental degradation etc in the recent decades. To embrace sustainable corporate sustainable strategies which include goals that goes beyond the optimization of the interest of shareholders, the firms need to minimize the main goals of classical economic theory. The threat to long-term economic growth is as a result of environmental destabilization and pollution and the non-renewability of natural resources as a barrier to production globally in the recent decades has emerged.

While this is a universal concern, Nigeria is also not left out in this adverse movement. This is as a result of pollution such as flaring of gas and oil spillages in the Niger Delta, flood and erosion in the south and chronic drought in the north. According to Islam (2017), in the affected communities, these pollutions are harmful to the habitants and environment. In this wise, pollution, increasing labours' disengagement, work-related hazards and stress, industrial action, employee's rights and social responsibility have become point of discussion and also call for suitable reporting and the concern of public and the society at large as stressed by Haitham and Nejla (2017). In this regard, there have been attacks on the economic and technological contributions of business because of social and environmental problem they cause overtime and for effective control, it is important to create sustainability refinement in business. Conceptualizing sustainability, it is required by market worldwide that companies should relay their social, and environmental effect apart from local financial statement which centers on primarily on profit and financial positions (Laskar, 2018).

Globally, sustainability reporting has received widespread support, mostly from industrialized nations and a few developing ones, such as South Africa (Abdulsalam *et al*., 2020). Despite the assertion by Ordu and Amah (2021) that there are other frameworks like Business in the Community (BITC), Business Ethics 100, Accountability rating and Dow Jones Sustainability Index (DJSI) that many firms relay their sustainability practices, with many of them using the Global Reporting Initiative framework, organizations still undermine the importance of sustainability reporting.

Financial performance is a wide phrase that refers to a firm's overall health and the returns on pooled resources employed for operational operations. Financial performance is also seen as the effective use of resources to meet specified objectives, resulting in a fair improvement in profitability indices (Williams, 2020). The importance of financial performance of manufacturing firms across the globe to the growth of the nation and the living standard of the populace cannot be overemphasized. This essentially plays an important function in improving the firm’s market value. According to Worae and Ngwakwe (2017), in order for the shareholders to make intelligent investment and financial decision which will optimize their well-being, they are usually interested in firm’s financial performance. Shareholders gain from good financial performance relating to dividends as well as positively impacts whole country in terms of job creation, taxes, CSR (Williams, 2020). Thus, if enterprises fail to perform as anticipated by assuring effective use of pooled resources, they will lose their competitiveness in the eyes of shareholders. The capacity of enterprises to enjoy growth and consistent dividend payments resulting from increases in their value, or financial success, is the maximization of shareholders' wealth (Nnamani *et al*., 2017). Consequent to this, financial success is critical since it influences current and potential investors' investment decisions.

It is believed that sector like manufacturing companies need a stable society in order to function economically, and the failure to effectively document the negative impact of the environmental hazards undermine the performance measurement of industries (Onuara & Egunike, 2016). As a result, the unreported hazardous environment that its reportage would have led to appropriate corrective measures disrupts the social harmony required to offer a stable operating environment, their operations are neither economically nor socially viable (Mugambi & Fatoki, 2019). Hence, companies are becoming more conscious of their responsibility for the environmental and social consequences of their actions on host communities and other stakeholders but the sustainable reporting impact is still inadequately determined (Mugambi *et al.*, 2019). From the foregoing, the study is interested to investigate the influence of sustainability reporting practices on financial performance of listed industrial goods in Nigeria.

In Nigeria, it is noted that among industrial goods firms, there is insufficient empirical works on the relationship between sustainability practices and financial performance (Abdulsalam *et al*., 2020). It is, thus, found out that this occurs because managers in Nigerian firms have not emphasized the need for sustainability practices, and not properly appreciated, which could possibly justify the inconsistent performance of the industry (Abdulsalam *et al*., 2020). Investors in this contemporary time, however, examine the annual reports of firms, to know their contribution towards the environment they operate in, before investing (Solomon, 2020). Consequently, aim to report social, environmental and economic performances have become rampant among many companies and this has generated several studies across the globe (Haitham & Nejla, 2017). Hence the need to consider the effect of environmental sustainability reporting practices on the financial performance of listed industrial goods firms in Nigeria.

LITERATURE REVIEW

The study reviewed the relevant studies related to the respective variables.

Conceptual Review

Sustainability Reporting

Onuara and Egbunike (2016) conceptualized sustainability as the ability of a company to adjust to the changes taking place in its immediate environment. Daily, the business environment keeps changing. These changes could either make/mar the success of an organization. For instance, insecurity hinders the operation of most manufacturing firms that transact with foreign investors as many of them stay off with Nigeria. Agreeing slightly Okafor (2018), argued that sustainability is the capability of business organizations to achieve the going concern concept. The going concern concept, however, implies the continued existence of a business entity after the demise/death of its founder. This could be attributed to the ability of the business entity to adjust to changes in its environment.

Environmental Disclosure Practice

Buallay (2020) described environmental disclosure practice as the capacity to provide the reduced long-term risks related with resources exhaustion, environmental pollution, waste management issues, energy costs volatility and product liabilities. Similarly, environmental disclosure practice is the act of maintaining service of nature at a convenient level as argued by Mutalib *et al.* (2020). According to these scholars, there is no emission at the rate over the potential of the natural ecosystem so as these emissions can be occupied and merged or the consumption of natural resources at the rate less than natural reproduction. To Asuquo *et al.* (2018), submitted that environmental disclosure practice observed there is need for organizations to improve, redesign, and restructure their operation so that adverse effect of environment can be reduced due to the limited environmental resources. Scholars argued further that environmental disclosure practice addresses conservation of resources, reduction of waste, and decline in consumption of harmful materials (Joseph *et al.,* 2021). The corporate environmental disclosure practice is, thus, believed to manifest through companies' environmental practices implementation in their daily operations and strategic planning procedures. Consequently, in order to increase environmental disclosure practices there is a need for organizations to change their undertakings in their distribution and operations.

Community Disclosure Practice

Community disclosure practice explains the duties of organizations to the community and covers issues that have to do with poverty alleviation and diseases, health care and education accessibility, and the overall wellbeing of the community (Olowokere *et al.*, 2021). It is, thus, covers business practices that are fair and favorable to the public affected either directly or indirectly by the firms and connected to human capital. According to scholars, community disclosure practice demands that companies provide same opportunities, motivate diversity, dispense training and development, seminars to employees, and maintain high occupational health and safety standards (Buallay *et al.,* 2020).

Economic Disclosure Practice

Different scholars have conceptualized economic disclosure practice based on their different points of view. Asuquo *et al.* (2018) defined economic disclosure practice as the utilization of prevailing resources in a maximum way using different methods so that a responsible and gainful balance in the long run can be accomplished. It solves both financial performance of the reporting companies and company's impact on economic conditions of its participants and the local, domestic and international economic system in which it produces.

From the perspective of Ngatia (2015), economic disclosure practice is the firm's economic effect on its external and internal participants together with that on economic systems at local, domestic and international level.

Financial Performance

According to Olowokere *et al.* (2021), manufacturing industry's performance is the total observation of the firm within a particular time to unfold the accomplishment of their operational activities. Iheduru and Okoro (2019) postulated that the performance of manufacturing company is the measure of viability and ongoing accomplishment of particular, tangible, worthwhile, personal, and quantifiable goals. Performance as an image is an important tool in management that show the best way to control a firm as justified by Okoro. According to Ngatia (2015), the real performance of the manufacturing sector can either be financial and non-financial. The purpose of this study centers on financial performance. Accounting-based performance measure is the variables that could be derived from the three basic financial statements of a corporation such as statement of financial position, statement of cash flow, and income statement (Ngatia, 2015). Financial performance is evaluated by the corporation's capacity to make profit after tax and to make positive operating fund (Iheduru & Okoro, 2019). By the way of defining the concept, Abdulsalam *et al.* (2020) defined financial performance as the performance of a specified period expressed in terms of the overall profits and losses during the time. Appraising the manufacturing company's financial performance gives the decision-makers to judge the undertaking of monetary terms and the outcome of business approach.

Conceptual Framework

Figure 1 shows the connectivity between the independent and dependent variables of the study:

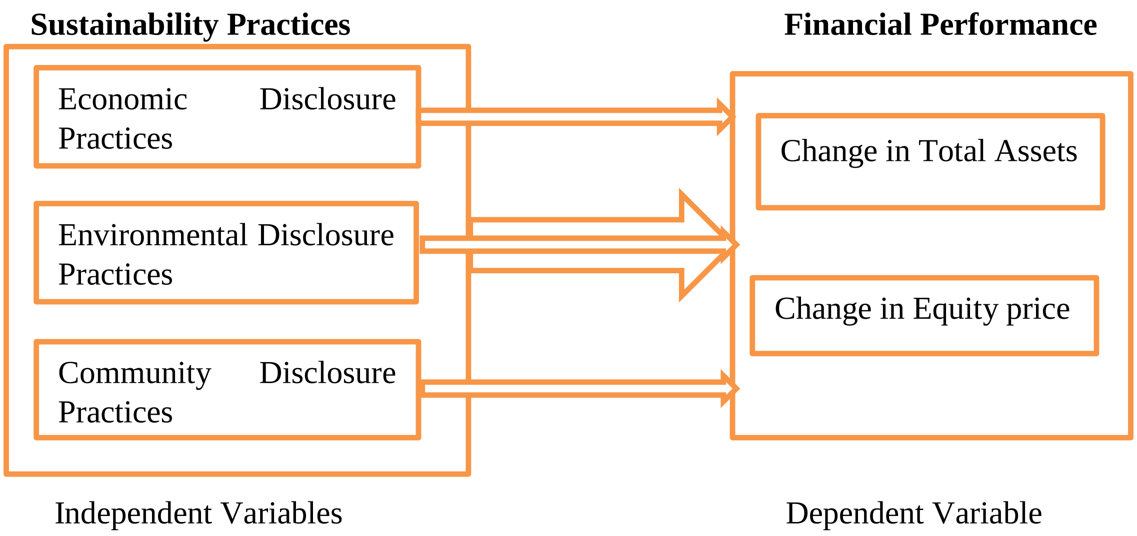

Figure 1. Connectivity between the independent and dependent variables
Source: Researchers' Conceptualization (2023)

Theoretical Review

This reviews the relevant theories for this study including the most preferred ones that this study is underpinned.

Signaling Theory

Signaling theory was established by Michael Spence in 1973. This theory asserts that signals are communicated between a firm and its external environment through her reporting practices, which influences its performance (Jones & Murrell, 2007). Amaya *et al.* (2021) believed that the consistent reporting practices implemented by a firm could improve their performance or hinder it. Thus, firms are advised to carry out actions that would reflect their transactions and can improve their reputation in society. Signaling theory aids in comprehending the reporting practices that corporations utilize by evaluating them in an objective form. Signaling is defined as the communication or manipulation of information by insiders of a firm (employees, managers and shareholders) in order to provoke a particular response from outsiders (investors, creditors, customers, the society and the government) which would ultimately benefit their performance (Moratis, 2018). Signaling theory explains that a firm can be performing badly, but those outside its environment would not know, because the firm would be sending signals which projects the performance of the firm as suitable.

Incorrect signaling has been attributed to be the major downfall of giant corporations like Enron, WorldCom and Lehman brothers among others. In that while the performance of the firm was low, the management was still sending signals that everything was suitable until they could no longer meet up with stakeholders' expectations, which led to their downfall (Dwi *et al.*, 2018). Firms through their community disclosure practice, economic disclosure practice and environmental disclosure practice send signals to the public, and if these signals are positive, investors could rush the issue shares, wanting to purchase them, which would increase their financial performance (Moratis, 2018). In essence, this theory explains that community disclosure practice, economic disclosure practice and environmental disclosure practice which are subsets of sustainability reporting practice have the ability to send signals to outsiders which should improve their financial performance.

Stakeholder's Theory

In 1984 the theory of Stakeholder was advanced by Edward Freeman. The underpinning assumption is that value should not be created for shareholders but for the stakeholders by the company. The theory put forward that firms accept sustainability practices as a way of accomplish their ethical, social and moral obligations to stakeholders and at the same time optimize the wealth of investors. A stakeholder is "any group or individual who can affect or is affected by the achievement of the organization's objectives" according to Freeman. These comprises of workers, the society, customers and producers, government agencies, investors and the public. Stakeholder theory is relevant in this study because it views at the association between a firm in its internal and external environment. The ability or otherwise of management to manage harmoniously the relationships that the firm has with its stakeholders will impact on its success. The expectation of stakeholders regarding the activities of an organization is a factor that should be considered with priority by the management team during strategic planning. This is because the actions of stakeholders as individuals or groups add value to the firms by increasing productivity, profitability, public image and overall business sustainability (Igbekoyi, 2017).

This study takes the view that stakeholder theory offers a veritable framework for explaining the relationships between the organization and its stakeholders in the operating environment and is therefore considered germane. The idea is that if the firm must achieve its long-term objectives and maintain sustainable operations it must not shy away from its relationships with relevant stakeholders or undermine their expectations. A stakeholder is relevant when its support becomes indispensable for the firm's survival and financial performance. Stakeholders expect management to be good corporate citizens, socially and environmentally responsible and have an impactive governance structure to drive corporate strategies and policies (Nnamani *et al.*, 2017).

Theoretical Framework

This study was anchored on stakeholders' theory. Stakeholders' theory provides the theoretical basis to the study and for clarification of the impact of sustainability reporting practices on the financial performance of manufacturing companies in Nigeria. The expectation of stakeholders regarding the activities of an organization is a factor that should be considered with priority by the management team during strategic planning. According to Igbekoyi (2017), as a result of stakeholders' action as individuals or groups, they add value to the companies by profitability, public image, rise in productivity, and overall business sustainability. The theory contends that a company should create value for both stakeholders and shareholders. Stakeholder theory holds that stakeholders of a firm comprise of individual influenced by firm and its workings. That perspective is in contrary to the long-held shareholder theory put forward by the economist Milton Friedman that in capitalism, the only stakeholders a company should pay attention to are its shareholders and thus, its bottom line. As opined by Friedman, it is expected by firms to continue positive growth, to satisfy their shareholders, and to make profit. Contrarily, Freeman suggested that stakeholders of a firm are "groups of people without their bankrolling the firm will not survive, thus, all stakeholders are pertinent. Stakeholders' theory is relevant in this study because it looks at the relationship between an organization in its internal and external environment.

METHODOLOGY

Research Design

This study adopted ex-post facto research design. This is because investigation started after the fact has occurred without the interference of the researcher and also for the fact that data needed for the study already exists.

Population, Sampling Technique & Sampling Size

The population of the study comprised ten industrial goods firms listed from the base year of this study. Krejcie and Morgan (1970) formula was used in determining the sample size. All the ten firms were selected as sample size.

Sources of Data

Secondary data was used and extracted from the annual reports of the sampled firms in the manufacturing industry for the period of 10 years, from 2011 to 2020. It is believed that the data has been authenticated by the internal and external auditors and that it presented the true condition of the companies through which a good deduction can be made.

Model Specifications

The study adapted the model used by Ordu and Amah (2021) which examined sustainability accounting and financial performance of Oil and Gas Companies in Nigeria. The model was given thus:

$$ROA = f(ESP_{it}) \quad (1)$$

Where:
ROA is Return on Assets, ESP is Environmental Spending.

However, the model was modified by capturing sustainability practices with economic disclosure, environmental disclosure and community disclosure with the intention to capture the totality of sustainability reporting as given by Global Reporting Initiative. Financial performance was also be measured with change in total assets and change in equity price. The new model was controlled with financial leverage; the econometric and linear representations of the new models are given thus:

$$CTA = \beta_0 + \beta_1 ECD_{it} + \beta_2 END_{it} + \beta_3 COD_{it} + \beta_4 LEV_{it} + \mu_{it} \quad (2)$$

$$CEP = \beta_0 + \beta_1 ECD_{it} + \beta_2 END_{it} + \beta_3 COD_{it} + \beta_4 LEV_{it} + \mu_{it} \quad (3)$$

Where:
CTA is Change in Total Assets, CEP is Change in Equity Price, ECD is Economic Disclosure END is Environmental Disclosure, COD is Community Disclosure and LEV is Leverage.

***A priori* Expectations**

It is expected that all the proxies of disclosure practices will exert a positive effect on financial performance in terms of change in total assets and change in stock price. Mathematically, it is expressed below:

$\frac{dCTA}{dECD} > 0$, $\frac{dCEP}{dECD} > 0$ it is expected that economic disclosure practices will exert a positive impact on financial performance in terms of change in total assets and change in stock price.

$\frac{dCTA}{dEND} > 0$, $\frac{dCEP}{dEND} > 0$ it is expected that environmental disclosure practices will exert a positive impact on financial performance in terms of change in total assets and change in stock price.

$\frac{dCTA}{dCOD} > 0$, $\frac{dCEP}{dCOD} > 0$ it is expected that community disclosure practices will exert a positive impact on financial performance in terms of change in total assets and change in stock price.

Definitions and Measurements of Variables

Table 1: Definitions and Measurements of Variables

S/N	Variables	Description	Measurement	Sources
1.	Environmental Sustainability Disclosure	Report on environmental cost and benefit	The aggregate score of the arithmetic mean for each indicator of the respective categories under environmental performance disclosure	Okafor (2018)
2.	Economic Sustainability Disclosure	Report on economic cost and benefit and other information	The aggregated score of the arithmetic mean for each indicator of the respective categories under economic performance disclosure	Ismal and Mohammed (2017)
3.	Community Involvement Disclosure	Report on community involvement cost and benefit	The aggregate score of the arithmetic mean for each indicator of the respective categories under community involvement disclosure	Amahlau (2020)
4.	Change in total asset	This is the change in total asset from end of a given year to the end of the preceding year	Absolute change in total asset	Ngatia (2015)
5.	Change in equity price	This is simply a shift in the value of security to a higher or lower level	Absolute change in equity price	Onyeogaziri (2018)

6.	Leverage	This is the strategy of using borrowed money to increase return on an investment	Ratio of total debt to shareholders equity	Strebulaev and Yang (2013)

Source: Researchers' Compilation (2023)

Estimation Techniques

The analysis began with descriptive statistics such as mean, standard deviation, minimum and maximum. This enables us to know the behavior of the variables used in the study. It was followed by correlation matrix and this enables us to know the expected relationship that exists between the variables used in the study. Thereafter, a regression analysis was carried out on the panel data with regards to pooled Ordinary Least Square (OLS) estimation, Fixed Effect Estimation, Random Effect Estimation. Post estimation test such as heteroscedasticity Wald test, Cross-Sectional independence test, autocorrelation test and restricted f-test of heterogeneity were conducted.

DATA ANALYSIS AND DISCUSSION

Descriptive Statistics

The result of descriptive statistics of the variables used in the study is shown in Table 2. Also, the determination of the multicollinearity problem among variables was carried out using the Pearson correlation coefficient. It was a balanced panel data of 10 years and across the selected 10 listed industrial goods firms in Nigeria.

Table 2: Descriptive Statistics

Variables	Obs	Mean	Standard Deviation	Minimum	Maximum
CTA	100	7.434766	1.247114	5.451527	9.800101
CEP	100	7.309618	.9668016	5.033761	8.564072
ECD	100	.6142	.295977	.14	1
END	100	.692	.2452292	.2	1
COD	100	.654	.2375889	.2	1
LEV	100	.1522123	.1734618	0	.8684737

Source: Data Analysis (2023)

In Table 2 the mean value for CTA is 7.434, with minimum and maximum values of 5.451 and 9.800 respectively. The standard deviation of 1.247 indicates average dispersion from the series mean. By implication, it implies there is an average gap between the change in total assets of industrial goods firms listed on the Nigerian Exchange Group. Furthermore, the mean value of ECD is at 7.310, with minimum and maximum values of 5.451 and 8.564 respectively and a standard deviation of 0.967 indicates an averagely wide dispersion from the series mean. This indicates that the change in equity of the selected firms listed on the Nigerian Exchange Group is relatively different. Also, the mean value of ECD is at 0.614 with minimum and maximum values of 0.14 and 1 respectively. The standard deviation (0.2960) shows an average dispersion from the series mean. It shows the average disparities in economic disclosure of the selected firms listed on the Nigerian Exchange Group. Furthermore, for END, its mean value stands at 0.692, with minimum and maximum values of 0.2 and 1 respectively. The standard deviation (0.692) shows an average dispersion from the series mean. It shows an average disparity in environmental disclosure of the listed industrial goods firms in Nigeria. Also, COD mean value is 0.659, with minimum and maximum values of 0.2 and 1 respectively. Its standard deviation of .1734618 shows a close dispersion from the series mean.

Correlation Analysis

Table 3: Correlation Matrix

Var.	CTA	CEP	ECD	END	COD	LEV	VIF
CTA	1						
CEP	0.3165*	1					
ECD	0.2770	0.2123	1				2.38
END	0.1887*	0.2323	0.3803*	1			2.14
COD	0.3881*	0.4295	0.4119	0.3982**	1		1.04
LEV	0.3554	0.2087**	0.2384	0.3592	0.4212	1	1.28

Source: Data Analysis (2023)

From the result presented in Table 3, there exists a positive relationship between CTA, CEP, ECD, END, COD and LEV with a correlation coefficient of 0.316 for CEP, 0.2770 for ECD, 0.1887 for END, 0.3881 for COD and 0.3554 for LEV. This implies that the variables are directly related over the time period under review by this study across the sampled firms. Similarly, the result also revealed that there exists a positive relationship between CEP, ECD, END, COD and LEV with a correlation coefficient of 0.2123 for ECD, 0.2323 for END, 0.4295 for COD and 0.2087 for LEV. This indicates that the variables moved in similar directions across the selected firms for the period covered. The result also revealed a positive relationship between COD and LEV with a correlation coefficient of 0.4212. The relationship between the predictors was positive with the highest correlation coefficient of 0.4295 for CEP and COD. This shows that there is no multicollinearity among our independent or explanatory variables due to low probability value which less than 0.7 and it was further confirmed through Variance Inflation Factor (VIF).

Regression Analysis

Model One: Impact of sustainability reporting practices (economic, environmental and community disclosure) on financial performance (change in total asset) of listed industrial goods firms in Nigeria.

Table 4: Results of Regression Estimate and Diagnostic Tests of Model One: Dependent Variable: CTA

Variables	***(1)***	***(2)***	***(3)***	***(4)***
	OLS	***FE***	***RE***	***FGLS***
ECD	.1445676 (.4191341)	.2601358 (.396556)	.2454034 (.3827495)	.1025325 (.1800892)
END	1.174163*** (.5161898)	1.302263** (.5459309)	1.27708** (.51721)	.3819956** (.034777)
COD	-1.218418** (.5239032)	1.063577** (.4322301)	1.079516** (.4233893)	.1628105 (.2770059)
LEV	.4349864 (.7031991)	.4794357 (.6799426)	.4644298 (.652391)	.3738827 (.2533275)
Constant	7.473024 (.5076051)	7.727152*** (.4848074)	7.692537*** (.551414)	7.369754*** (.3359559)
Observations	100	100	100	100
R-squared	0.7932	0.5487	0.5089	
Adj. R-Squared	0.6583	0.4736	0.4272	

F-Stat	F(4,95) = 32.44 Prob> F = 0.002	F(4,86) = 12.93 Prob> F = 0.0255	Wald $chi^2(1)$ = 12.41 Prob>chi^2 = 0.0146	Wald $chi^2_{(5)}$ = 33.26 Prob>chi^2 = 0.000
Pesaran CD Test	-	1.4007 {0.361}	-	-
Hausman Test	-	-	Chi2(1) = 0.08 Prob>chi^2 = 0.9992	-
Breusch-Pagan LM Test	-	-	$chi^2_{(01)}$ = 57.70 Prob>chi^2 = 0.0000	-
Modified Wald Test for Heteroskedasticity	-	$chi^2(10)$= 385.54 Prob>chi^2 = 0.000	-	-
Woodridge Test for Autocorrelation	-	$F_{(1,29)}$ = 6.003 Prob> F= 0.0368	-	AR (1) = 0.6456

Note: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Source: Researchers' Field Survey (2023)

Diagnostic Tests

The Hausman test was carried out to decide which of the fixed and random effect model is appropriate for this analysis. From the result in Table 4, the chi-square statistics value of 0.08 with probability value of 0.9992 which is greater than 0.05, this implies that random effect is appropriate for this analysis. On the other hand, the Breusch – Pagan LM test with a chi-square statistic of 57.70 and a prob-value of 0.000 makes random effect an inappropriate estimation technique for the model. However, since the Hausman test favors random effect estimation, it is expedient to carry out a further test such as cross-sectional independence, heteroskedasticity and serial/autocorrelation. The result of the Pesaran CD test reveals 1.4007 with a prob-value of 0.361 indicating the absence of cross-sectional dependence. The null hypothesis is rejected as a result of the significant result of the Modified Wald test for heteroskedasticity with a probability value of 0.000 and the Wooldridge test for autocorrelation in panel data with a probability value of 0.0368. Thus, the Feasible Generalized Least Squares, FGLS that corrects for heteroskedasticity and autocorrelation is considered appropriate for our hypothesis testing and result interpretation.

Regression Estimates Interpretation

Based on the FGLS results, ECD, COD and LEV have a positive but insignificant effect on CTA of listed industrial goods firms in Nigeria. Also, a positive and significant relationship exists between END and CTA of the listed manufacturing firms in Nigeria.

Model Two*:* Impact of sustainability reporting practices (economic, environmental and community disclosure) on financial performance (change in Equity Price) of listed industrial goods firms in Nigeria.

Table 5: Results of Regression Estimate and Diagnostic Tests of Model Two: Dependent Variable: CEP

Variables	***(1)***	***(2)***	***(3)***	***(4)***
	OLS	***FE***	***RE***	***FGLS***
ECD	.0226618 (.332956)	.4342136 (.3364378)	-.2809786 (.3276022)	.1461686** (.0680044)
END	.0056765 (.4100561)	.394623 (.4631674)	.2008438 (.4304584)	.1828716** (.0618564)
COD	.2642433 (.4161836)	.7317048** (.3667037)	.5699923 (.3721225)	.0391407 (.2495116)
LEV	1.153911** (.5586145)	.0510886 (.5768627)	.397211 (.5541934)	.0709124 (.3151083)
Constant	6.943316*** (.4032365)	6.832474*** (.4113102)	6.909975 (.4184927)	7.311612*** (.2572488)
Observations	100	100	100	100
R-squared	0.7853	0.7483	0.7264	
Adj. R-Squared	0.6454	0.6484	0.6938	
F-Stat	$F(4,95)$ = 31.19 Prob> F = 0.004	$F(4,86)$ = 51.62 Prob> F = 0.0017	Wald $chi^2(4)$ = 14.25 Prob>chi^2 = 0.0037	Wald $chi^2_{(5)}$ = 21.07 Prob>chi^2 = 0.0069
Pesaran CD Test	-	1.8453 {0.331}	-	-
Hausman Test	-	-	Chi2(1) = 19.27 Prob>chi^2 = 0.0007	-
Breusch-Pagan LM Test	-	-	$chi^2_{(01)}$ = 18.99 Prob>chi^2 = 0.000	-
Modified Wald Test for Heteroskedasticity	-	$chi^2(10)$= 384.57 Prob>chi^2 = 0.000	-	-
Woodridge Test for Autocorrelation	-	$F_{(1,29)}$ = 2.173 Prob> F= 0.1745	-	AR (1) = 0.5396

Note: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Source: Researchers' Field Survey (2023)

Diagnostic Tests

The Hausman test was carried out to decide which of the fixed and random effect model is appropriate for this analysis. The result of the test with a probability value of 0.0007 implies that fixed effect is appropriate for this analysis. In order to ascertain non-violation of OLS assumptions it is necessary to conduct test of cross-sectional dependence, heteroskedasticity and serial or autocorrelation so as to interpret fixed effect model. Or else, the violations must be resolved to make our model useful for decision-making and prediction. An observation of Table 6 shows there is problem of cross-sectional dependence and serial correlation in the model. Since autocorrelation has been recognized as a potential problem in panel data analysis hence the use of Parkers' Feasible Generalized Least Square (FGLS) (Reed & Ye, 2011).

Regression Estimate Interpretation

Based on FGLS results, the regression results testing hypothesis two shows that ECD, END, COD and LEV have a positive effect on CEP. The positive effect is only significant for ECD and END against the insignificant effect of COD and LEV.

Table 6: Validation of Hypotheses

S/N	Models	Hypothesis	P-value	Remark
1	CTS	ECD and CTA	0.569	Accept
		END and CTA	0.025	Reject
		COD and CTA	0.557	Accept
		LEV and CTA	0.140	Accept
2	CEP	ECD and CEP	0.034	Reject
		END and CEP	0.012	Reject
		COD and CEP	0.875	Accept
		LEV and CEP	0.822	Accept

Source: Researchers' Computation (2023)

Implication of Findings

The result of the analysis conducted revealed that sustainability practice disclosure captured with economic, environmental and community disclosure have a positive effect on the financial performance of listed industrial goods firms in Nigeria in forms of change in asset and change in equity price. The implications of the findings are that:

i. Management of listed industrial goods firms in Nigeria appreciates the significant influence of sustainability disclosure practice in making building a goodwill and build a productive image of the firms in the industry. This in turn assist them in making informed decision as to how to maintain sustainable and stable financial performance.
ii. The shareholders on the other hand have access to ample opportunities to understand the aspects of sustainability disclosure practices that affects the financial stability of industrial goods firms in which they have a stake and in turn assist them in making informed decision about their investment. With the acquired knowledge, the shareholders could match the appropriate sustainability practice with the key performance indicator and also know the right disclosure that influences financial stability.

Discussion of Findings

The Feasible Generalized Least Squares (FGLS) which a center of this discussion as a result of being an estimator that solves the problem of cross-sectional dependence, serial correlation, and heteroskedasticity. The finding revealed that economic disclosure has a positive but insignificant impact on the change in total assets of listed industrial goods firms in Nigeria to the tune of .1025325 ($p= 0.569 > 0.05$). This is a confirmation of the *a priori* expectation. The inference of this outcome is that financial performance in terms of change in assets of listed industrial goods firms in Nigeria would respectively increase by 10.3% with just a 1% increase in economic disclosure at an insignificant level. This outcome agreed with the conclusion of Kwaghfan (2015), Iheduru and Okoro (2019), Buallay (2020) and Hope (2020) that a positive but insignificant effect exists between economic sustainability disclosure and corporate performance of the selected firms in Nigeria. On the contrary, this finding disagreed with the findings of Asuquo *et al.* (2018) that economic Performance disclosure (ECN) has a negative and no significant effect on return on asset (ROA) of selected quoted firms in Nigeria.

Also, it was unveiled that economic disclosure has a positive significant impact on change in stock price of listed manufacturing firms in Nigeria with the coefficient and probability values of .1461686 and 0.034. The corollary of these discoveries is that when industrial goods firms disclose their spending to promote economic stability to their stakeholders, there is a tendency for their change in equity price to increase at a significant level. This finding is in tandem with the finding of Ngatia (2015), Abdulsalam *et al.* (2020) stated that a positive significant relationship exists between economic disclosure and corporate performance of firms. On the other hand, this finding conflicts with the conclusion of Atanda *et al.* (2021) and Joseph *et al.* (2021) that there is no significant effect of economic sustainability disclosure on firm value.

Consequently, environmental disclosure has a positive and significant impact on the financial performance captured with change in assets and change in equity price of listed manufacturing firms in Nigeria to the tune of .3819956 ($p = 0.025 < 0.05$) and .1828716 ($p = 0.012 < 0.05$). This outcome agreed with the expected positive effect and by implication, it connotes that with just a 1% increase in environmental disclosure, both changes in asset and equity price will respectively increase by 38.20% and 18.29%. The inference of this discovery is that environmental disclosure has the potency to significantly influence change in assets and change in equity price of listed manufacturing firms in Nigeria. Expectedly, firms contribute to the growth and development of their environment to derive benefits directly from the environment.

The relevance of environment disclosure justified the tenets of social contract theory. It expresses that companies are supposed to undertake some activities for the society as a measure of good faith and appreciation for the hospitability the society provides. Social contract theory expressly states that there is an agreement between companies and their host communities that must be fulfilled, whether the agreement was written or not, which is very common between modern-day societies and companies resident in them. This corroborates the findings of Onuara and Egbunike (2016), Ofregbu and Aminoritse (2016), Okafor (2018), and Emmanuel *et al.* (2019) that environmental disclosure has a significant positive impact on the profitability of companies. However, the finding failed to support the conclusion of Onuara and Egbumike (2016), Nor *et al.* (2016), Abubakar *et al.* (2017), that environmental accounting has no significant impact on firm performance.

Finally, community disclosure has a positive but insignificant impact on the change in asset and equity of the listed industrial goods firms in Nigeria to the tune of .1628105 ($p = 0.557 > 0.05$) and .0391407 ($p = 0.875 > 0.05$) respectively. This confirmed the expected positive effect and by inference, it connotes that with just a 1% increase in community development disclosures of listed industrial goods firms in Nigeria, both change in assets and change in equity price will respectively increase by 16.28% and 3.91%. The consequence of these outcomes is that community disclosure can insignificantly influence change in assets and equity price of listed manufacturing firms in Nigeria. The positive effect became insignificant due to the seasonal community development practice adopted by most firms in Nigeria. This failed to agree with the conclusion of Mariya (2019), Williams (2020), Amahlau (2020) and Buallay *et al.* (2020) that a significant relationship exists between community disclosure and performance of firms.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

This study investigated the relevance of the effect of sustainability reporting practices on the financial performance of listed industrial goods firms in Nigeria. Existing empirical evidences that drive the selection of this topic were discussed in the background to the study. Here, sustainability was proxied by economic, environmental and community sustainability disclosures while financial performance was proxied with change in assets and change in equity price. The *a priori* expectations between the variables were also discussed. After which the problems faced by the industrial goods firms in measuring the correlation between their sustainability disclosure practices and financial performance were discussed under the statement of the problem.

The study adopted ex-post facto research design and the secondary data used were obtained from the audited and published financial reports of the sampled industrial firms for the period of 10 years, from 2011 to 2020. It is believed that the data had been authenticated by the internal and external auditors and that it presented the true state of the firms financially through which informed decisions can be made. Descriptive statistics of mean, standard deviation, minimum and maximum values were used to describe the variables used in the study. Thereafter, pair wise correlation, pooled regression, fixed and random estimations and the Feasible Generalized Least Squares (FGLS) were carried out.

Conclusion

The economic dimension of information persuades stakeholders of the possibility of competitive capital resources and a low degree of risk. This is expected to increase investors' and creditors' trust in corporate responsibility, which will improve the company's reputation or image, and hence its financial success. Despite the expected attraction of investors, firms in Nigeria still lag on the statistical parameters to effectively establish the relationship between sustainability reporting practices and the financial performance of listed industrial goods. Empirically, the impact of sustainability disclosure practices on the financial performance of firms has generated several studies across the globe with mixed findings. In the same vein, some studies undertook the subject matter but failed to make a mark among listed industrial good firms. Nonetheless, the hypotheses of these studies require a further affirmation or nullification in ascertaining the direction of the relationship between community involvement disclosure and the financial performance of listed industrial goods in Nigeria. Hence, the necessity to undertake this study. From the individual analysis carried out as hypothesized, it was concluded that sustainability disclosure practice can enhance the financial performance of listed industrial goods firms in Nigeria. Theoretically, this study confirms that the principles of signaling theory, stakeholder theory and resource-based theory are valid.

Recommendations

Based on the findings, the following recommendations were made. Management of listed industrial goods firms in Nigeria should ensure adequate compliance with the guidelines of environment disclosure practice as this portrays a good image of their firm. Thereby, a high level of financial stability will be achieved in the competitive business world. Also, given the insignificant relationship that exists between community involvement disclosure and the performance of firms in the industrial sector, the management of the listed industrial goods firms should channel effort into engaging in adequate follow up to ensure transparency in its community development practices and its disclosure as a way of increasing stakeholders trust and showing more transparency in their operations. This could in turn lead to achieving better financial performance. Finally, functional and interactable economic practices should be created by each manufacturing firm to ensure that the firms maintain their guidelines in reporting economic practices in their annual reports and accounts, this way stakeholders would access this information and even vouch for them as economically responsible and this could bring about more investors to the companies.

Contribution to Knowledge

The study has contributed to the body of knowledge in accessing the sustainability performance heterogeneity across industrial firms and equally shows the complexity by which the overall sustainability disclosure affects their financial performance in terms of change in total assets and change in stock price. The study also enables firms to have full knowledge of what sustainability practice is and its impact on man and the overall environment. The findings also assist firms to improve on their support for sustainability reporting. The econometric model established also aids future researchers in sustainability reporting practice measurement.

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