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**Topic:** Economic Sustainability Reporting Practices on Financial Performance of Listed Industrial Goods Sector in Nigeria

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## ABSTRACT

*Economic sustainability reporting is an organizational report that gives information about economic, environmental, social and governance activities of the firm. The objective of this study is to examine the effect of sustainability reporting practices on the financial performance of listed industrial goods firms in Nigeria where 10 industrial goods firms were selected from the 13 listed existing industrial goods firms based on purposive sampling. The study employed ex-post-facto research design and data were sourced from the annual reports and accounts statements/sheets of the sampled firms. The analysis begin with the description of data with the use of mean, standard deviation, minimum and maximum. Pearson correlation matrix also deployed. Regression analysis*

*was carried out on the panel data with regards to pooled Ordinary Least Square (OLS) estimation, Fixed Effect Estimation, Random Effect Estimation. The result shows the economic disclosure has a positive but insignificant effect on the return on asset of listed industrial goods firms in Nigeria to the tune of 0.1025325 (p= .569 > .05). This is a confirmation of the a-priori expectation. Also, it was unveiled that economic disclosure has a positive and significant impact on return on equity of listed industrial goods firms in Nigeria with the coefficient and probability values of 0.1461686 and 0.034 (p=0.034<0.05). The study therefore, concludes that sustainability practice disclosure can enhance the financial performance of listed industrial goods firms in Nigeria. The study recommend that management of listed industrial goods firms in Nigeria should ensure adequate compliance with the guidelines of environment practice disclosure as this portrays a good image of their firm. Thereby, a high level of financial stability will be achieved in the competitive business world.*

Keywords: Economic disclosure, Environmental disclosure, Financial performance, Industrial Goods Sector, Social disclosure, Sustainability Reporting, Stakeholders.
Words Count: 330



## 1. Introduction

According to Maryam, Lateef and Onipe (2021) financial performance plays a significant role in increasing the market value of a firm. This is because shareholders are usually interested in the financial performance of firms in order to make wise investment and financial decisions that will maximize their wealth. It is interesting to note that assessing the determinants of financial performance has gained important momentum in the corporate finance literature because of the diversity and engagement of these firms in series of seemingly unrelated business activities that are prone to all sorts of risks (credit risk, market risk, foreign exchange risk, interest risk, financial risk and operating risk) (Mugambi & Fatoki, 2019).

Based on the forgoing, financial performance is classified into two subcategories: market-based performance (such as stock price, dividend payout and earnings per share) and accounting-based performance (such as return on assets, return on equity, return on capital employed etc). Corporate performance in accounting literatures refers normally to financial performance such as return on equity (ROE), return on assets (ROA) and return on capital employed (ROCE) (Adeyemo, 2019). It also refers to the measurement of the results of a firm's strategies, policies, and operations in monetary terms with results that are reflected in the firm's return on assets and return on

investments. It provides a subjective measure of how well a company can use assets from its primary mode of business to generate revenues. It is measured by revenues from operations, operating income, or cash flow from operations or total unit sales. Therefore, the user of financial information may wish to look deeper into financial statements and take informed decision.

Manufacturing operations are taking place in an unsafe atmosphere globally. Environmental changes, such as global warming, health care, and poverty, are increasingly posing severe challenges. For illustration, from the financial report disclosed by Lafarge plc in 2018, it was unveiled that the company seems to have been experiencing decrease in their profit margin. It was reported that the company has a 4% decrease in profit margin in 2018, while 6% decrease was reported in 2017 (Adeyemo, 2019). From the thorough investigation that was carried out, the management were advised by business analyst that the company should embark on more sustainability functions and disclosure these functions to invite both local and foreign investor in order to boost its revenue base, towards more productivity and profitability at the long run. 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 & Fatoki, 2019). Based on the background, this study seeks to examine the effect of sustainability reporting practices on financial performance of listed industrial goods sector in Nigeria.



**1.2 Statement of the problem**

In Nigeria, it is noted that among manufacturing firms which focus on industrial goods, there is insufficient studies on the relationship between sustainability practices and financial performance (Abdulsalam, Abdulrahman, Mohammed &Abubakar, 2020). It is thus believed that this occurs because managers in firms in Nigeria have not emphasized the need for sustainability practices, and not properly appreciated, which could possibly justify the inconsistent performance of the industry (Adhima, 2013). 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, attempts to account for social, environmental and economic performance have become more common among many organizations and this has generated several studies across the globe (Haitham&Nejla, 2017; Ezeoha&Omkar, 2017; Pryobudi,Anindita, &Tashia, 2018; &Williams, 2020). This has elicited the investor's interest in understanding the impact of the economic, environmental and community involvement on sustainability reporting practices prior to their final investment decision (Adhima, 2013)

Researchers in Nigeria (Emmanuel, Elvis, & Abiola, 2019) undertook studies with the objective of evaluating the effect of sustainability reporting on financial performance, for instance, Agu and Amedu (2018) assessed the impact of SR on the profitability of pharmaceutical companies listed in Nigeria, Ucheagwu, Akintoye, and Adegbie, (2019) examined the impact of environmental sustainability practices on financial performance of listed firms in Nigeria. Asuquo et al (2018) evaluated the impact of sustainability reporting on business financial performance in some selected listed breweries firms in Nigeria; Ndukwe and Nwakanma (2018) examined sustainable development practices and financial performance of 34 listed firms from different sectors of Nigerian economy, Yusuf, Emmanuel, Akpan and Odumegwu (2020) examined the impact of Sustainability Reporting on Corporate Performance: Evidence from Nigeria Exchange Group, while Atanda, Osemene and Ogundana ( 2021) studied sustainability reporting and firm value: evidence from selected Deposit Money Banks in Nigeria. It is obvious that there is paucity of literature on the effect of economic sustainability reporting practices and financial performance of listed industrial goods sector in Nigeria. More so, the present study covers 2012-2021 financial year which also differs from earlier studies and the use of Return on Asset, Return on Equity and Return on Capital Employed as dependent variables which are not found in previous studies within the Nigeria Industrial goods literature. In view of the above gap, this study examines the effect of economic sustainability reporting practices on the financial performance practices of listed Industrial Goods Sector in Nigeria.



### 1.3 Research Objective

The main objective of this study is to assess the effect of economic sustainability disclosure practice on the financial performance of listed industrial goods sector in Nigeria

### 1.4 Research Hypotheses

The study developed this null hypothesis:

$H_O$: Economic sustainability disclosure practices has no significant effect on the financial performance of listed industrial goods sector in Nigeria

### 1.5 Scope of the Study

The focus of this study centers on economic sustainability reporting practices and financial performance of industrial goods sector in Nigeria. There are many sections in the manufacturing

industry, however, the study is limited to listed firms producing industrial goods. This study covered a period of 10 years, spanning from 2012 to 2021. This study adopted panel multiple regression estimation technique.

## LITERATURE REVIEW

### 2.0 Introduction

This chapter reviewed the literature in the area of sustainability reporting and performance of manufacturing firms in Nigeria. The chapter is divided into conceptual review, theoretical review and empirical review.

### 2.1 Conceptual Review

#### Financial Performance

The performance of the manufacturing industry is the total view of the industry within a given period to unveil the achievements of their operational activities (Olowokere, Adeniran & Onifade, 2021). Iheduru and Okoro (2019) postulated that the manufacturing firm's performance is the indicator of sustainability and progressive achievement of specific, tangible, worthwhile, personal and measurable goals. He further explained that performance is a vital construct in management that mirrors the best way to manage an organization. Performance also reflects the heterogeneous nature, objectives and circumstances and objectives of an organization at a given period (Kwaghfan, 2015). The actual performance of the manufacturing industry can either be financial and non-financial (Ngatia, 2015). In the context of this study, however, financial performance will be focused on.

Accounting-based performance measure is the variables that could be derived from the three basic financial statements of a corporation which include income statement, statement of cash flow and balance sheets (Ngatia, 2015). Generally, accounting-based performance measures are expressed as ratios, percentages, or values. Following a common set of rules for reporting financial status would produce consistency in presentation among similar multinational corporations. Financial performance is measured by the corporation’s ability to generate profit after tax and to generate positive operating cash flow (Iheduru&Okoro, 2019). By the way of defining the concept, Abdulsalam, Abdulrahman, Mohammed and Abubakar (2020) defined financial performance as

the performance of a specified period expressed in terms of the overall profits and losses during the time.

Evaluating the financial performance of a manufacturing firm allows decision-makers to judge the result of a business strategy and activity in objective monetary terms. Asuquo, Dada and Onyeogaziri (2018) identified two broad categories of financial performance measures as investor returns and accounting returns. The basic idea of investor returns is that the return should be measured from the perspective of shareholders. Whereas accounting returns measures of financial performance focus on how firm earnings respond to different managerial policies (Abdulsalam, Abdulrahman, Mohammed & Abubakar, 2020). Based on the foregoing definitions, characteristics and significance of the concept, financial performance is the process of evaluating the monetary achievements of the business affairs by implementing policies and strategies terms. In this regard, Ngatia (2015) reported that there is a number of financial performance measures which include TOBIN Q, return on assets (ROA), return on equity (ROE), change in total asset, earnings per share (EPS), net profit, change in stock price, operating profit, gross profit, return on capital employed to estimate the monetary health and the corporation's efficiency in utilizing available monetary resources. Return on Asset (ROA), Return on Equity (ROE) and Return on Capital Employed (ROCE) will be focused on in the context of this study.



**Return on Asset**

Return on Assets (ROA) represents the amount of earnings (before interest and tax) a company can achieve for each naira of assets it controls and is a good indicator of a firm's profitability. According to Hagel, Brown and Davison (2010), ROA explicitly takes into account the assets used to support business activities. It determines whether the company is able to generate an adequate return on these assets rather than simply showing robust return on sales. Asset-heavy companies need a higher level of net income to support the business relative to asset light companies where even thin margins can generate a very healthy return on assets. Using ROA as a key performance metric quickly focuses management attention on the assets required to run the business.

It is given by the formula:

$$ROA = \frac{\text{Net Income}}{\text{Total Asset}}$$

**Return on Asset (ROA) and Sustainability Disclosure**

Sustainability Disclosure and Return on Asset Financial Performance can be measured through the accounting measures. Return on asset is one of the profitability ratios used to measure financial performance. This has been used by researchers to measure financial performance of firms.

Ezeagba, John-Akamelu, and Umeoduagu (2017) in a study conducted on environmental disclosure and financial performance of food and beverage companies in Nigeria, revealed that there is a significant relationship between environmental accounting disclosure and return on asset. Dessy and Suryaningsih (2015) documented a significant effect between environmental disclosure and return on assets. Rokhmawati, Sathye, & Sathye (2015) found out that environmental accounting disclosure has a positive and significant effect on return on Asset.

**Return on Equity**

Return on equity which is a test of profitability based on the investments of the owners of the business. It measures the return which accrues to the shareholders after interest payments and taxes are deducted. It is given by the formula:

$$\frac{\text{Net profit (after interest, taxes and preference dividend}}{\text{Shareholders' Equity}}$$



**Return on Equity(ROE) and Sustainability Disclosure**

Financial Performance can be measured through profitability, and return on equity (ROE) has been used by researchers to measure profitability of firms. Dessy & Suryaningsih (2015) examined the effect of environmental disclosure on financial performance using companies listed on the Indonesian Stock Exchange. The results showed that environmental performance has significant effect return on equity (ROE). Adediran and Alade (2013) investigated if there is any significant relationship between environmental accounting disclosure and financial performance in Nigeria. The results showed that there is significant negative relationship between environmental accounting and return on equity. Agbiogwu, Ihendinihu, & Okafor (2016) examined the impact of environmental and social costs on performance of Nigerian manufacturing companies. Results showed that environmental and social cost significantly return on equity of manufacturing companies. Ezeagba, John-Akamelu, &Umeoduagu (2017) examined the relationship between environmental accounting disclosures, return on equity of food and beverage companies in

Nigeria. The study revealed that there is a significant relationship between environmental accounting disclosures return on equity.

**Return on Capital Employed**

Return on capital employed (or return on Investment) which is an efficiency gauge to show the intensity and profitability of overall capital employed. It is given by the formula:

$$\frac{\text{Net profit(before interest and taxes)}}{\text{Capital employed}}$$

**Return on Capital Employed (ROCE) and Sustainability Disclosure**

Financial Performance can be measured through profitability, and return on capital employed (ROCE) have been used by researchers to measure profitability of firms. Agbiogwu, Ihendinihu, and Okafor (2016) examined the impact of environmental and social costs on performance of Nigerian manufacturing companies. Results showed that environmental and social cost significantly affect earnings per share of manufacturing companies. Ahmed, Zakaree and Kolawole (2016) examine the impact of social and environmental disclosure on financial performance of listed manufacturing firms in Nigeria. The findings of the study indicated Social and environmental disclosure has significant positive effect on earnings per share, and hence profitability of companies

**2.2 Economic Sustainability Disclosure Practice**

Iheduru and Okoro (2019) and other different scholars have conceptualized economic disclosure practice based on their different points of view. Asuquo, Dada and Onyeogaziri (2018) defined economic disclosure practice as the use of existing resources in an optimal way using various strategies so that a responsible and beneficial balance can be achieved in the long-run. It may not only address the financial performance of the reporting firms but also the firm's effects on the economic circumstances of its stakeholders and the local, national and global economic systems in which it operates. From the perspective of Ngatia (2015), economic disclosure practice is the organization's economic impact on its external and internal stakeholders in addition to that on economic systems at local, national, and global levels.

Manufacturing organizations to be economically sustainable need to perform well at the micro-level by minimizing costs and maximizing profits and shareholder returns (Iheduru & Okoro, 2019). Thus, the economic dimension of sustainability does not refer only to profitability. It also concerns delivering cash flows that are sufficient enough to maintain liquidity and bring a constant, above the average return to shareholders. As such, economic disclosure practice ought to deal with the bottom line and the flow of money, including such indicators as profits and shareholder returns, but also stock market performance and financial ratios. According to Abdulsalam, Abdulrahman, Mohammed and Abubakar (2020), economic disclosure practice refers to the ability of a firm to maintain a long-term presence in the competitive business world by enhancing its financial performance. Corroborating this, Iheduru and Okoro (2019) explained it as the adoption of a system of production that satisfies present consumption levels without compromising future needs.

The economic disclosure practice of a firm is essential to its viability and it focuses on a firm's ability to provide support for future generations in a given economy. Several economists developed support for the need for economic disclosure practice in every organization. Adam Smith, the propounder of economic theory saw the economic system as a product of labour and its organization (Iheduru & Okoro, 2019). They argued that the labour of each country generates its wealth. Thereby, economic disclosure practice is associated with labour in economic theory, with investors in neoclassical economics and with society in the theory of economic policy.



**Conceptual Framework**

Figure 2:1 shows the connectivity between the independent and dependent variables of the study:

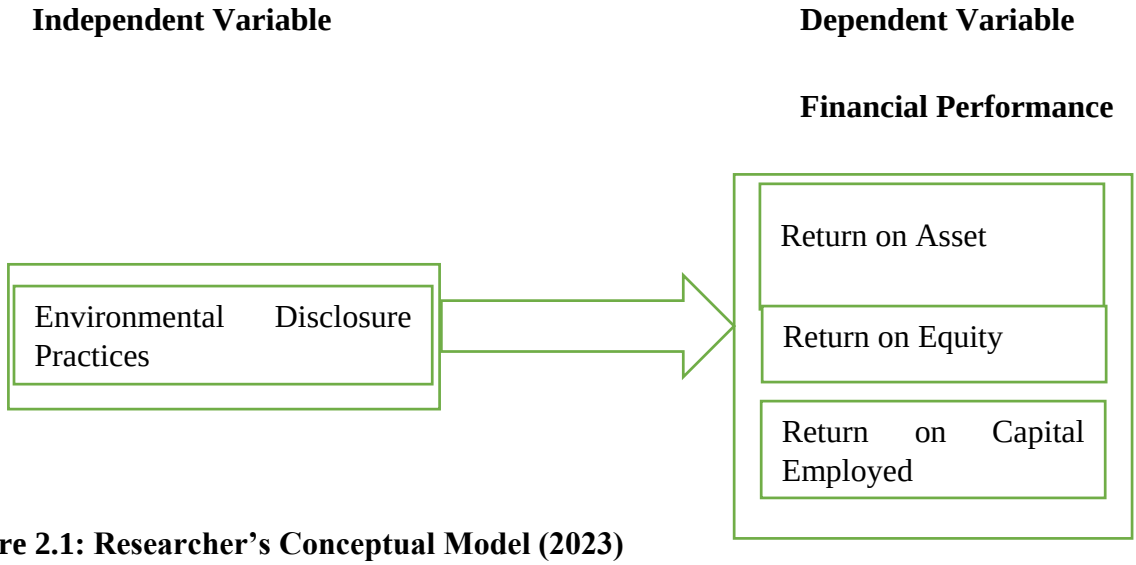


**Figure 2.1: Researcher's Conceptual Model (2023)**

## 2.2 Theoretical Review

This section shows the relevant theories for this study including the ones that this study is underpinned.

### Signaling Theory

Signaling theory was established by Michael Spence in 1974. 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, López-Santamaría, Acosta and Hinestroza, (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. The theory has been criticized based on some limitations. Firstly, the theory highly focused on the signal sent by the firm, and not the interpretation of the public (Amaya, López-Santamaría, Acosta & Hinestroza, 2021).

### Resource Based Theory



It is widely accepted that this theory was established by Barney in 1991, when he asserted that the resources of a firm which would give it competitive advantage has to be valuable, rare, inimitable and non-substitutable (VRIN). These features later advanced to be the basis on which a firm's resource would be identified and on which their performance would be hinged on. Resource based theory admits that there are common resources to all firms, but the ones which would suitably improve their performance would be ones which are unique in their utilization to the firm.

This theory has been criticized based on some factors; the valuation and sustainable competitive advantage of resources are similar in their explanation, making the theory tautological (Abagail & Donald, 2011). More so, it is limited in its evaluation of a firm's performance to the internal resources of the firm.

### Stakeholder's Theory

The theory was developed by Edward Freeman (1984). The underlying assumption of this theory is that a firm should create value for all stakeholders and not just the shareholders. The theory proposes that organizations embrace sustainability practices as a means of fulfilling their ethical, social and moral obligations to stakeholders and simultaneously maximize shareholders wealth.

Despite its seeming rise in popularity, many scholars have problems with stakeholder theory. Some (Key, 1999) argue that stakeholder theory lacks specificity and thus, cannot be operationalized in a way that allows scientific inspection. Some feel that stakeholder theory offers no decision-making criteria that would adequately guide corporate governance.

**Theoretical framework**

This study was anchored on stakeholders' theory. Stakeholders' theory provides the theoretical foundation to the study and for explanation of the effects of sustainability reporting practices on the financial performance of manufacturing firms 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. 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).

## RESEARCH METHODOLOGY

The study employed ex-post-facto research design and data were sourced from the annual reports and accounts statements/sheets of the sampled firms. 10 industrial goods firms were selected from the 13 listed existing industrial goods firms based on purposive sampling, the firms are Berger Paint, Dangote Cement, CAP Plc, BUA, Meyer Plc, Portland Paint, Lafarge Cement, Beta Glass, Greip Nigeria, and Notore Chemical.

The analysis begin with the description of data with the use of mean, standard deviation, minimum and maximum. Pearson correlation matrix also deployed. Regression analysis was carried out on the panel data with regards to pooled Ordinary Least Square (OLS) estimation, Fixed Effect Estimation, Random Effect Estimation.

**Definitions and Measurements of Variables**

**Table 3.1: Definitions and Measurements of Variables**

| S/N | Variables | Description | Measurement | Sources |
|---|---|---|---|---|
| 1. | 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 | Ismal and Mohammed (2017) |

| | | | | |
|---|---|---|---|---|
| | | | categories under economic performance disclosure | |
| 2. | Return on Asset | ROA is an indicator of how profitable a company is relative to its assets or the resources it owns or control | Return on assets measured as net profit after tax divided by total assets | Asuquo (2018); Burhan &Rahmanti, (2012); Fuadah et al. (2019). |
| 3. | Return on Equity | ROE measure the net profit generated by a company based on each amount of equity investment contributed. | ROE is measured as net profit after tax divided by shareholders equity | Ainia, &Deddy (2014) |
| 4. | Return on Capital Employed | 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: Researcher's Compilation (2023)**

**Model Specification**

$$Y = f(x)$$

Y = Financial Performance (FP)

X = Sustainability Reporting Practices (SRP)

Dependent Variable Y = y1, y2, y3

Where y1 = ROA

y2 = ROI

y3 = ROCE

Independent Variable X = (SRP)

Where x1 = Economic Sustainability Disclosure Practices (ECSDP)

x2 = Environmental sustainability Disclosure Practices (ENSDP)

x3 = Social Sustainability Disclosure Practices (SSDP)

$$Y = \beta_0 + \beta_1 x1 + \beta_2 x2 + \beta_3 x3 + ei$$

$$ROA = \beta_0 + \beta_1 ECSDP + \beta_2 ENSDP + \beta_3 SSDP + eit \ldots\ldots 1$$

$$ROE = \beta_0 + \beta_1 ECSDP + \beta_2 EVSDP + \beta_3 SSDP + eit \ldots\ldots\ldots 2$$

$$ROCE = \beta_0 + \beta_1 ECSDP + \beta_2 ENSDP + \beta_3 SSDP + \text{eit} \ldots\ldots 3$$

Main Model

$$FP = \beta_0 + \beta_1 ECSDP + \beta_2 ENSDP + \beta_3 SSDP + eit \ldots\ldots\ldots 4$$

Where

ROA = Return on Assets

ROE = Return on Equity

ROCE = Return on Capital Employed



## 4. DATA ANALYSIS AND DISCUSSION OF FINDINGS

### Descriptive Statistics

Our result begins with the description of the characteristics of data series and as indicated in Table 4.1. 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 firms in industrial goods sector in Nigeria.

**Table 4.1: Descriptive Statistics**

| Variables | Obs | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| ROA | 100 | 7.434766 | 1.247114 | 5.451527 | 9.800101 |

| | | | | | |
|---|---|---|---|---|---|
| ROE | 100 | 7.309618 | .9668016 | 5.033761 | 8.564072 |
| ECD | 100 | .6142 | .295977 | .14 | 1 |
| END | 100 | .692 | .2452292 | .2 | 1 |
| SOD | 100 | .654 | .2375889 | .2 | 1 |
| ROCE | 100 | .1522123 | .1734618 | 0 | .8684737 |

***Source: Data Analysis, (2023).***

Presented in Table 1 is the description of the balanced dataset that spanned 10 years and the selected 10 listed industrial goods firms in Nigeria. The descriptive statistics depict the average value for ROA as 7.434766, with minimum and maximum values of 5.451527 and 9.800101 respectively. The standard deviation of 1.247114 indicates average dispersion from the series mean. By implication, it means there is an average gap between Return on Asset of industrial goods firms listed on the Nigerian Stock Exchange. In the same result, the mean value of ECD is at 7.309618, with minimum and maximum values of 5.451527 and 8.564072 respectively and a standard deviation of 0.9668016 indicates an averagely wide dispersion from the series mean. This indicates that the return on equity of the selected industrial goods firms listed on the Nigerian Stock Exchange is relatively different. Also, the mean value of ECD is at 0.6142 with minimum and maximum values of 0.14 and 1 respectively. The standard deviation (0.295977) shows an average dispersion from the series mean. It shows the average disparities in economic disclosure of the selected industrial goods firms listed on the Nigerian Stock Exchange. 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, SOD 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 while the return on capital employed (ROCE) mean is 0.1522, minimum and maximum values of 0 and 0.86847 respectively and standard deviation of 0.17346.

**Correlation Analysis**

**Table 4.1: Correlation Matrix**

| **Var.** | **ROA** | **ROE** | **ECD** | **END** | **SOD** | **ROCE** | **VIF** |
|---|---|---|---|---|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ROA | 1 | | | | | | |
| ROE | 0.3165* | 1 | | | | | |
| ECD | 0.2770 | 0.2123 | 1 | | | | 2.38 |
| END | 0.1887* | 0.2323 | 0.3803* | 1 | | | 2.14 |
| SOD | 0.3881* | 0.4295 | 0.4119 | 0.3982** | 1 | | 1.04 |
| ROCE | 0.3554 | 0.2087** | 0.2384 | 0.3592 | 0.4212 | 1 | 1.28 |

***Source: Researcher's Computation, (2023).***

From the result presented in table 2, there is a positive relationship between ROA, ROE, ECD, END, COD and ROCE with a correlation coefficient of 0.3165 for ROE, 0.2770 for ECD, 0.1887 for END, 0.3881 for SOD and 0.3554 for ROCE. This indicates that the variables moved in similar directions over the period covered by this study across the sampled firms. Similarly, the result also showed that there exists a positive relationship between ROE, ECD, END, SOD and ROCE with a correlation coefficient of 0.2123 for ECD, 0.2323 for END, 0.4295 for SOD and 0.2087 for ROCE. This implies that the variables moved in similar directions across the selected firm for the period covered. That is, an increase in one variable would cause an increase in the other. Also, it was revealed that a positive relationship between ECD, END, SOD and ROCE with a correlation coefficient of 0.3803 for END, 0.4119 for SOD and 0.2384 for ROCE. On a similar note, a positive relationship exists between END, SOD and ROCE with a coefficient value of 0.3982 for SOD and 0.3592 for ROCE. The result also revealed a positive relationship between SOD and ROCE with a correlation coefficient of 0.4212. The relationship between the predictors was positive with the highest correlation coefficient of 0.4295 for ROE and SOD. This indicates that the probability of multicollinearity among our independent or explanatory variables is extremely low and it was further confirmed through Variance Inflation Factor (VIF).

**Regression Analysis**

**4.3.1 Model One**: Impact of sustainability reporting practices (economic, environmental and social disclosure) on financial performance (Return on Asset) of listed industrial goods firms in Nigeria

**Table 4.2: Results of Regression Estimate and Diagnostic Tests of Model One: Dependent Variable: ROA**

| | *(1)* | *(2)* | *(3)* | *(4)* |
|---|---|---|---|---|
| ***VARIABLES*** | ***OLS*** | ***FE*** | ***RE*** | ***FGLS*** |
| ECD | .1445676 | .2601358 | .2454034 | .1025325 |
| | (.4191341) | (.396556) | (.3827495) | (.1800892) |
| END | 1.174163*** | 1.302263** | 1.27708** | .3819956** |
| | (.5161898) | (.5459309) | (.51721) | (.034777) |
| SOD | -1.218418** | 1.063577** | 1.079516** | .1628105 |
| | (.5239032) | (.4322301) | (.4233893) | (.2770059) |
| ROCE | .4349864 | .4794357 | .4644298 | .3738827 |
| | (.7031991) | (.6799426) | (.652391) | (.2533275) |
| Constant | 7.473024 | 7.727152*** | 7.692537*** | 7.369754*** |
| | (.5076051) | (.4848074) | (.551414) | (.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 | F(4,86) = 12.93 | Wald $chi^2(1)$ = 12.41 | Wald $chi^2_{(5)}$ = 33.26 |
| | Prob> F = 0.002 | Prob> F = 0.0255 | Prob>$chi^2$ = 0.0146 | 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 | - | $chi^2(10)$= 385.54 | - | - |

| | | | | |
|---|---|---|---|---|
| Test for Heteroskedasticity | | Prob>chi$^2$ = 0.000 | | |
| Woodridge Test for Autocorrelation | - | $F_{(1,29)}$ = 6.003<br>Prob> F= 0.0368 | - | AR (1) = 0.6456 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

***Source: Researcher's Computation, (2023).***

**Diagnostic Tests**

The Hausman test results conducted to decide on the appropriateness of either fixed or random effects favours random effect as the chi-squares statistic is 0.08 with a probability value of 0.9992, which is greater than 0.05. 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 affect an inappropriate estimation technique for the model. However, since the Hausman test favours random effect estimation, further tests for cross-sectional independence, heteroskedasticity and serial/autocorrelation become necessary. 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, SOD and END have a positive but insignificant impact on ROA of listed industrial goods firms in Nigeria. Also, a positive significant relationship exists between END and ROA of the listed industrial goods firms in Nigeria.

**Regression Analysis**

**4.3.1 Model One**: Impact of sustainability reporting practices (economic, environmental and social disclosure) on financial performance (Return on Asset) of listed industrial goods firms in Nigeria

**Table 4.3: Results of Regression Estimate and Diagnostic Tests of Model One: Dependent Variable: ROA**

| | *(1)* | *(2)* | *(3)* | *(4)* |
|---|---|---|---|---|
| ***VARIABLES*** | ***OLS*** | ***FE*** | ***RE*** | ***FGLS*** |
| ECD | .1445676 | .2601358 | .2454034 | .1025325 |
| | (.4191341) | (.396556) | (.3827495) | (.1800892) |
| END | 1.174163*** | 1.302263** | 1.27708** | .3819956** |
| | (.5161898) | (.5459309) | (.51721) | (.034777) |
| SOD | -1.218418** | 1.063577** | 1.079516** | .1628105 |
| | (.5239032) | (.4322301) | (.4233893) | (.2770059) |
| ROCE | .4349864 | .4794357 | .4644298 | .3738827 |
| | (.7031991) | (.6799426) | (.652391) | (.2533275) |
| Constant | 7.473024 | 7.727152*** | 7.692537*** | 7.369754*** |
| | (.5076051) | (.4848074) | (.551414) | (.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 | F(4,86) = 12.93 | Wald $chi^2(1)$ = 12.41 | Wald $chi^2_{(5)}$ = 33.26 |
| | Prob> F = 0.002 | Prob> F = 0.0255 | Prob>$chi^2$ = 0.0146 | 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 | - | $chi^2(10)$= 385.54 | - | - |

| | | | | |
|---|---|---|---|---|
| Test for Heteroskedasticity | | Prob>chi$^2$ = 0.000 | | |
| Woodridge Test for Autocorrelation | - | $F_{(1,29)}$ = 6.003<br>Prob> F= 0.0368 | - | AR (1) = 0.6456 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

***Source: Researcher's Computation, (2023).***

**Diagnostic Tests**

The Hausman test results conducted to decide on the appropriateness of either fixed or random effects favours random effect as the chi-squares statistic is 0.08 with a probability value of 0.9992, which is greater than 0.05. 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 affect an inappropriate estimation technique for the model. However, since the Hausman test favours random effect estimation, further tests for cross-sectional independence, heteroskedasticity and serial/autocorrelation become necessary. 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, SOD and END have a positive but insignificant impact on ROA of listed industrial goods firms in Nigeria. Also, a positive significant relationship exists between END and ROA of the listed industrial goods firms in Nigeria.

## 4.4 Validation of Hypotheses

| S/N | Models | Hypothesis | P-value | Remark |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| 1 | ROA | ECD and ROA | 0.569 | Accept |
| | | END and ROA | 0.025 | Reject |
| | | SOD and ROA | 0.557 | Accept |
| 2 | ROE | ECD and ROE | 0.034 | Reject |
| | | END and ROE | 0.012 | Reject |
| | | SOD and ROE | 0.875 | Accept |
| | ROCE | ECD and ROCE | 0.822 | Accept |
| | | END AND ROCE | 0.558 | Accept |
| | | SOD AND ROCE | 0.373 | Reject |

Source: Researcher's Computation, 2023.

### 4.5 Implication of Findings

Outcome of the analysis carried out unveiled that economic sustainability practice disclosure have a positive impact on the financial performance of listed industrial goods sector in Nigeria in terms of return on asset, return on equity and return on capital employed. The implications of the findings are that:

i. Management of listed industrial goods firms in Nigeria appreciates the significant influence of economic sustainability practice disclosure in making building a goodwill and build a productive image of the manufacturing firms in the industry. This in turn assists 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 practice disclosure that affects the financial stability of manufacturing 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.

### 4.6 Discussion of Findings

The discussion of findings is based on Feasible Generalized Least Squares (FGLS), being the estimator that solves the problems of cross-sectional dependence, serial correlation and heteroskedasticity. It was discovered that economic disclosure has a positive but insignificant

effect on the return on asset 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 return on asset 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, Dada and Onyeogaziri (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 return on equity of listed industrial goods firms in Nigeria with the coefficient and probability values of .1461686 and 0.034. The corollary of these discoveries is that when manufacturing firms disclose their spending to promote economic stability to their stakeholders, there is a tendency for their return on asset to increase at a significant level. This finding is in tandem with the finding of Ngatia (2015), Abdulsalam, Abdulrahman, Mohammed and Abubakar (2020), and Mutalib, Iriabije, Okon and Chijioke (2020) 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, Osemene and Ogundana (2021) and Joseph, Ben-Caleb, Agburuga, Ani, Jegede and Fadoju (2021) that there is no significant effect of economic sustainability disclosure on firm value.

## 5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

### Summary

It was discovered that economic disclosure has a positive but insignificant effect on the return on asset of listed industrial goods firms in Nigeria to the tune of .1025325 (p= .569 >.05). This is a confirmation of the a-priori expectation. Also, it was unveiled that economic disclosure has a positive and significant impact on return on equity of listed industrial goods firms in Nigeria with the coefficient and probability values of .1461686 and .034.

### Conclusion

The economics 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 practice disclosure 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 social disclosure practices 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 economic sustainability practice disclosure 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:

i. Since it was discovered that economic disclosure has a positive but insignificant effect on the return on asset of listed industrial goods firms in Nigeria, it is recommended that management of industrial goods sector in Nigeria should embark on more economic disclosure so as to increase profitability of the industry.

ii. Furthermore, functional and intractable economic practices should be created by each industrial goods 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.

iii. Management of listed industrial goods firms in Nigeria should ensure adequate compliance with the guidelines of environment practice disclosure as this portrays a

good image of their firm. Thereby, a high level of financial stability will be achieved in the competitive business world.

**Contribution to Knowledge**

The study has contributed to the body of knowledge in accessing the economic sustainability performance heterogeneity across industrial goods firms and equally shows the complexity by which the overall sustainability disclosure affects their financial performance in terms of return on asset (ROA), return on equity (ROE) and return on capital employed (ROCE). The study also enables people to have full knowledge of what economic 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 practices measurement.

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