Relevance of Sustainability Disclosure to Profitability of Listed Pharmaceutical Firms in Nigeria

Agu, S.I. and Amedu, J.M.A

Abstract-*This study set out to determine the effect sustainability reporting on the profitability of listed pharmaceutical firms in Nigeria. An ex –post facto research design approach was adopted for the study. The population of this study comprises of all pharmaceutical firms listed on the floor of the Nigeria Stock exchange. Secondary data were obtained from the annual report of the companies of seven (7) sampled firms which covered from 2012 to 2017 financial year. Data were analyzed using the ordinary linear regression. The results showed that there is negative and insignificant relationship between economic disclosure index and Return on Assets whereas both Environmental and Social disclosure indexes have statistical positive but insignificant relationship with Return on assets of pharmaceutical firms in Nigeria. The findings further revealed that Environmental disclosure index has statistical negative and insignificant relationship to Return on equity whereas there is positive but insignificant relationship to both economic and Social disclosure indexes and Return on equity of pharmaceutical firms in Nigeria. Finally, the result established also that economic and Social disclosure indexes have statistical positive but insignificant relationship with net profit margin whereas there is negative and insignificant relationship between Environmental disclosure index and net profit margin of pharmaceutical firms in Nigeria. Consequent upon the findings, this study recommends among others; The management of the pharmaceutical firms in Nigeria should maintain comprehensive sustainability disclosures order to boost its profitability.*

Index Terms— Corporate social responsibilities, *Disclosure,* Global reporting Initiative*, pharmaceutical* companies*, Profitability Sustainability and Sustainability reporting.*

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1.INTRODUCTION

Corporate sustainability has become a universal concern, and there has been a growing recognition of sustainability reporting by the pharmaceuticals industry. The widely published international survey of corporate sustainability reporting conducted by KPMG in 2011 put it to light that for the 100 largest pharmaceuticals companies in each of the 34 countries in the survey, CSR reporting had more than doubled since KPMG's last survey in 2008 (KPMG, 2011 as cited in Mohammad & Saiful,2013).

The Nigerian pharmaceutical sector has come a long way from the pre-independence era when the pharmaceutical sector involved in the distribution of imported drugs by the representatives of the different foreign manufacturers such as Beecham, May and Baker, Pfizer, Glaxo and J.I. Morrison. Today, there are about 130 pharmaceutical firms operating in the country and 5 indigenous companies control 58 percent of the manufacturing of pharmaceutical products (Ugbam & Okoro, 2017).

As part of measures to ensure consistent growth and survival of pharmaceutical sector in Nigeria, there is growing pressure from various agencies for firms under this sector to act responsibly and be liable for the impacts they have on the social, political and ecological environment (UNIDO, 2011).

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These measures are important as they would enable the pharmaceutical firms achieve their long term survival. It therefore becomes vital that pharmaceutical companies like other companies in other sectors prepare its report to integrate not only financial but also non-financial disclosure (ethics, values, principles, environmental progression, innovations, community development, etc.) which is seen as an essential corporate communication process by most members of a company's stakeholder community (Breitbarth, Harris, & Insch, 2010, KPMG, 2015). Today, economic performance of a business organization alone does not exclusively guarantee economic growth. The awareness of the corporate environmental performance (CEP) is growing as an inevitable information tool for global resources. The sustainability reporting is a useful application to provide environmental information initiated by the organization and as a form to evaluate the environmental initiatives on organization. Increasing value of proper CEP initiatives should be an important bound for the organizations' managerial decisions to increase the value of corporate social responsibility (CSR) (Gnanaweera & Kunor, 2018).

As defined by the Global Reporting Initiative (GRI), sustainability report is, "a report published by a company or organization about the economic, environmental and social impacts caused by its everyday activities." Sustainability reporting can also be called triple bottom line reporting (TBL) or nonfinancial reporting (Khan, 2015). This implies that a sustainable report remains incomplete if it does not integrate the three (3) pillars of TBL; economic (Profit), Social (People), and Environment (Planet) disclosures which are central to the corporate value of an organization.
This report enables companies to provide information regarding the nonfinancial aspects of its operations, ultimately allowing companies to actively engage in a solution towards improving firm accountability, transparency, and corporate image. As a pioneer in sustainability reporting, the GRI has transformed sustainability reporting into a practice that is adopted by organizations all over the world. Whether impacts are positive or negative, a sustainability report also encompasses the company's values, governance model, and its approach towards creating a sustainable global

economy. Much like the financial documentation required for public companies, non-financial reporting can also allow markets to respond to ever-changing conditions, keep shareholders informed, and provide an element of transparency into firm activity.

From all indication and understanding of the fact that sustainability report may promote corporate long term survival, invariably, it is capable of influencing the profitability of an organization. This study is ventured to ascertain the effect of sustainability disclosure and reporting on profitability of pharmaceutical firms in Nigeria. The choice of this area was based on the fact that pharmaceutical firms play key roles in the sustainable development manufacturing sector in Nigeria. Again, there is a dearth of studies on the relationship between sustainability reporting and profitability firms in Nigeria. Predicated on these, this study is carried out to provide convincing empirical evidence on the effects of sustainability reporting on profitability of pharmaceutical companies, specifically on how this report influence return on asset(ROA), Return on Equity(ROE) and Net profit Margin (NPM) of listed pharmaceutical firms on Nigerian Stock Exchange (NSE).

2.0 LITERATURE REVIEW

2.1 Conceptual Framework

Concept of sustainability

According to Deegan and Rankin (2006), externalities caused by a business organization cannot be accurately measured, neither are they entirely recognized in financial accounting; also the likelihood of scarcity caused by resources used in the production process do not reflect in market prices of such resources. Consequently, financial accounting alone is inadequate to portray a holistic picture of organizational performance, except it takes cognizance of sustainability reporting. Also, Lozano (2008) proffers an integrational view of sustainability; and argues that business organizations should consider social and environmental implications alongside economic impacts. This view has led to an evolving form of corporate reporting known as sustainability reporting. Another perspective of sustainability is the notion of intergenerational-equity, which is a core principle required for the sustainable development of any company. This study does not intend to measure corporate sustainability from an integrational and/or inter-generational perspective, rather it measures sustainability reporting by observing the economic, environmental, social and governance indicators in annual reports and stand-alone sustainability reports, social responsibility reports and citizenship reports of companies. Although at the time of the Brundtland report, 'sustainability' was a concept used within the domain of environmentalists and ecologists, the recent discourse on 'sustainability' has long left this realm because of its multi-disciplinary approach. Since the term 'sustainability' is often used in several disciplines, it is crucial to indicate that this study situates 'sustainability' in accounting and by extension corporate reporting, hence the term 'corporate sustainability reporting' (relating to companies). Sustainability reporting transcends environmental reporting because it includes reporting of social and economic impacts as well as governance approaches to managing the impacts. It provides a better platform for a communication with a wide range of business stakeholders. The emphasis of sustainability on economic, social and environmental dimensions is synonymous to Profit, People and Planet (the 3Ps). These 3Ps are also referred to the triple bottom line.

Corporate Sustainability Reporting

According to Soyka (2012), corporate sustainability is not just interest in the environment, corporate social responsibility or strategic philanthropy, but it is aware of the interests of stakeholders; which is ensuring economic viability, while maintaining a sustainable environment that is socially reasonable. Although there is no hard and fast rule stipulating how sustainability should be applied in business organizations, it is a principle that business organizations can apply to every aspect of their corporate life. However, sustainability issues can be incorporated into corporate practices such as operations, strategy and reporting. Hahn and Kuhnen (2013) note that sustainability disclosures can be found in corporate integrated, sustainability, social responsibility, environmental, social and annual reports. These reports show organizations' account of commitments and performance in economic, environmental, social and governance indicators. Sustainability reporting has a broad focus compared with social responsibility reporting. According to Eccles and Krzus (2010), research on corporate social responsibility is usually preoccupied with the business community, while sustainability is engrossed with material issues that contribute to sustainable development. Ernst&Young (2013) state that corporate reporting is expanding to incorporate a wider range of business stakeholders as a result of a variety of sustainability concerns, such as climate change, pollution, human rights issues and economic performance. The inclusion of these issues in corporate reporting is also due to the inability of traditional financial accounting to capture them in the assessment of financial performance of business organizations. Ballou *et al.* (2006) also note that sustainability reporting involves reporting financial and non-financial information that are relevant to operational, social and environmental activities as required by business stakeholders. Studies (Klynveld Peat Marwick Goerdeler - KPMG, 2008; Muller, 2011) acknowledge that economic, environmental and social performances are features of sustainability reports. This form of reporting is driven by a growing recognition that an organization's performance can be depicted by economic, environmental, social and governance terms. These sustainability issues can materially affect a company's performance; therefore, it is essential that companies improve transparency and disclosure on them (to stakeholders), as part of improved corporate governance, and contribution to overall sustainable development. The current state of sustainability reporting can be divided into two parts; namely voluntary and mandatory sustainability reporting. Voluntary sustainability reporting occurs when managers' according to their discretion decide what, how and when to disclose sustainability information, even, when on the other hand there are no mandatory requirements to do so. Mandatory sustainability reporting is one that is demanded by the national government or its delegated regulatory authority, such as Securities and Exchange Commission that oversees the activities of business organizations quoted on the stock market.

Global Reporting Initiative (GRI) framework

The Global Reporting Initiative (GRI) was founded by group of firms in 1997 as in Muhammad (2014) who are members of the Coalition for Environmentally Responsible Economies (CERES), with the aim of providing globally reporting standard and guidelines on economic, environmental and social performance for sustainability reporting. The guideline is intended for use by business firms, governmental or non-governmental organization (GRI, 2002). The GRI as an organization is represented by various firms from diverse locations and regions of the world, the NGOs and the United Nations Environment Program (UNEP) as well. The guidelines issued by GRI are continuously improved by the stakeholder council who evaluate the content and structure of the required report in order to ensure that it serves it purpose (GRI, 2011).

GRI Reporting Framework documents are established through a wider consultation and dialogue that ensures consensus among stakeholders from the communities of businesses, investors, labor, civil societies, accountants, and academia. All Reporting Framework documents are subject to testing and continuous improvement. The GRI Reporting Framework is intended to serve as a generally accepted framework for reporting on an organization's economic, environmental, and social performance. It is designed for use by organizations of any size, sector, or location. It considers the practical considerations for peculiarities for different firms operating in different sectors and of different sizes, and locations. The major performance disclosure indicators of G4 (GRI, 2018) are given below:

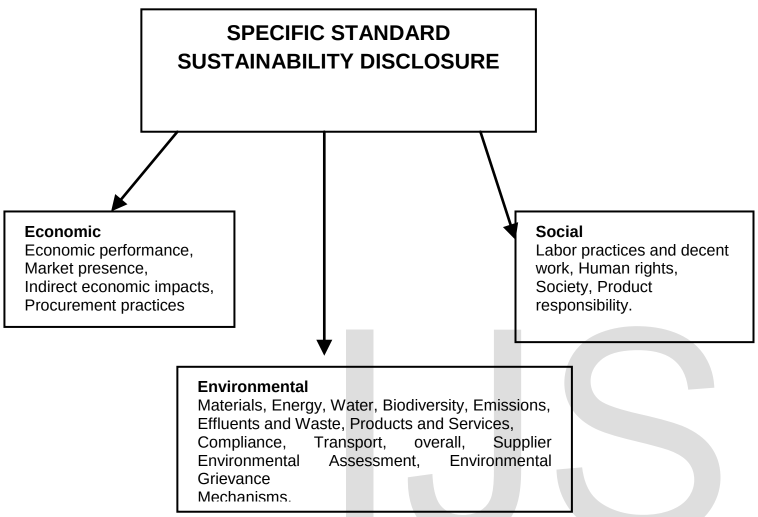

Figure1: Specific Standard Sustainability Disclosure

Profitability and sustainability disclosure

CSR is important aspect to the sustainable operations of corporations; similarly, profitability is undeniably fundamental to the continuity of any organization. The studies on relationship between profitability and environmental/sustainability disclosure also have several empirical studies (Aras, Aybars, & Kutlu, 2010; Brine et al., 2006; Clarkson et al., 2008; Wagner, 2005). Whereas some of the studies concluded that there is a positive relationship between profitability and environmental disclosure (Al-Tuwaijri et al., 2004; Clarkson, Li, Richardson, & Vasvari, 2011 ;). However, some studies failed to find a significant relationship between these two variables (Gnanaweera & Kunori, 2018; Brammer & Pavelin, 2008; Brine et al., 2006). Previous studies posit that effect of profit on environmental disclosure have inconsistent relationship. Fairfield and Yohn (2001) explored that there is a small and growing literature examining the determinants of profitability ratios like return on equity (ROE) and return on net operating assets (RNOA). Consequently, Return on Asset (ROA), return on equity (ROE) and Net profit Margin (NPM) were used in this study to surrogate profitability.

2.2 Theoretical Framework

There are different theories that can be adopted to explain why many corporate entities may provide both voluntary and mandatory disclosure of their corporate social responsibilities. This paper adopted, the stakeholders 'theory.

Stakeholder theory was championed and first described by Edward Freeman, a professor at the University of Virginia, in his landmark book, "Strategic Management: A Stakeholder Approach " In 1984.To Freeman, stakeholder is 'any group or individual who can affect or is affected by the achievement of the organization's objectives'. The holistic idea of the stakeholder concept is define what organization should be and how it should be conceptualized. Friedman (2006) in Aondoakaa (2015) states that the organization itself should be thought of as grouping of stakeholders and the purpose of the organization should be to manage their interests, needs and viewpoints. This stakeholder management is thought to be fulfilled by the managers of a firm. The managers should on the one hand manage the corporation for the benefit of its stakeholders in order to ensure their rights and the participation in decision making and on the other hand the management must act as the stockholder's agent to ensure the survival of the firm to safeguard the long term stakes of each group.

The main groups of stakeholders are: Customers, Employees, Local communities, Suppliers and distributors and Shareholders. In addition, other groups and individuals are considered to be stakeholders in the Friedman (2006) as cited in Aondoakaa (2015) are; The media, The public in general, Business partners, Future generations, Past generations (founders of organizations), Academics, Competitors, NGOs or activists – considered individually, stakeholder representatives such as trade unions or trade associations, suppliers or distributors, Financiers other than stockholders (debt holders, bondholders, creditors), Competitors, Government, regulators and policymakers.

Popa, Blidisel and Bogdan (2009) maintain that stakeholder theory is based on the premise that the stronger the companies' relationships are with other interest parties, the easier it will be to meet its business objectives. Stakeholder theory contributes to the corporate sustainability concept by bringing supplementary business arguments as to why companies should work toward sustainable development. Also, Perrini and Tencati (2006) state that the sustainability of a firm depends on the sustainability of its stakeholder relationships; a company must consider and engage not only shareholders, employees and clients, but also suppliers, public authorities, local (or national according to a firm's size) community and civil society in general, financial partners etc. nowadays and more and more in the future, the quality, that is the sustainability, of stakeholder relationships must be the guiding principle for the managerial decision making process and the pillar of a more comprehensive corporate strategy.

2.3 Empirical review

Mohammad and Saiful (2013) took an appraisal of corporate sustainability reporting of pharmaceutical companies Bangladesh. Using ex-post facto and content analysis from the annual reports published in 2009- 2010, the results showed that 26.67% of listed pharmaceutical companies made some CSR disclosure. However, more than seventy-five per cent of these disclosures are sweeping qualitative statements without any attempt at quantification.

Another report from Japan by Gnanaweera and Kunori (2018) evaluated the determinants of corporate sustainability disclosure practices for 85 Japanese companies listed on Tokyo Stock Exchange (TSE) in the First Section, from 2008 to 2014. The content analysis and regression analysis were conducted to examine the research objective. The results of content analysis indicate that listed firms on TSE disclose some extent on environmental, social and economic information but the level of disclosure is vary; CSDF indicator with maximum disclosure level attributed to "Total amount of greenhouse emissions" with 99% disclosing rate and the minimum is the "Index and Grades" with 0%.

An American related study by Lancee (2018) examined the Impact of Sustainability Reporting on Firm Profitability of firms. Using a hand-collected representative sample of 95 publicly traded American firms from various sectors in 2015-2016.It was found that a positive and significant effect of sustainability reporting on a firm's return on equity, return on assets, and profit margin in the subsequent year.

Ndukwe and Nwakanma (2018) investigated the relationship between sustainable development practices and corporate financial performance. The study adopted 'ex-post facto' research design. Data used for the study were sourced from annual reports and financial statements of thirty-four quoted companies selected from several sectors of the Nigerian economy for the period 2011 to 2015. Content analysis was used to construct the sustainable development index. Multiple regression analysis techniques run on SPSS version 23 was used to test the hypotheses formulated in this study. Findings revealed a negative relationship between return on equity and sustainable development practices.

Nnamani, Onyekwelu and Ugwu (2017) evaluated the effect of sustainability accounting on the financial performance of listed manufacturing firms in Nigeria. Firms used for the study were chosen from the Nigerian brewery sector. Data were sourced from the financial statements of three sampled firms. Data were analyzed using the ordinary linear regression. The study reveals that sustainability reporting has positive and significant effect on financial performance of firms studied.

Faria, Asma and Hamida (2018) examined the current reporting practices of sustainability issues of Bangladeshi Banks. The study used the annual report of 2016 of selected Private Commercial Banks (PCBs) in consideration of GRI G4 guidelines. This study has found that 100% of the sample bank has participated in sustainability reporting. Most reported sectors are labor, product responsibility, energy, emission.

Osisioma, Nzewi and Nwoye (2015) examined the relationship between corporate social responsibility and performance of selected firms in Nigeria. Exploratory research design was employed with the use of time series data. Product moment correlation was used to test the hypothesis and to determine whether there is any significant relationship between social responsibility cost and corporate profitability in the selected firms. Findings revealed a significant relationship between social responsibility cost and corporate profitability.

From the previous studies reviewed and critical examination of the mixed research findings, it is not arguable that more literature and empirical evidences are needed on the nexus between sustainability reporting and profitability of firms especially on Pharmaceutical sector in Nigeria. T limited understanding constitutes the knowledge gap t this study seeks to fill.

3.0 METHODOLOGY

This study adopted ex-post facto research desi utilized time series data generated from the annual repo and accounts of the Seven (7) randomly samp pharmaceutical firms which covered a period of five ye (2012-2017) for cross sectional analysis. The selection w based on the firms' position as a key player in the indus as put forward by Equity Research Report (2016) based asset, liquidity, market capitalization and stability. Cont analysis was also performed to determine the presents absence of items mentioned by GRI framework. This pa concentrated on the GRI specific standard sustainab disclosure which include dimension of econor environmental, social and corporate governance aspect the. Linear regression analysis was performed to analyze the relationship between sustainability reporting and profitability of the firms attributes. The model specified below estimates the relationship:

PROF = f (SDR)…………………………………… (1)

ROA= β0 + β1EcDI + β2 EnDI + β3SDI + ε ------- (2)

ROE = β0 + β1EcDI + β2 EnDI + β3SDI + ε -------- (3)

NPM = β0 + β1EcDI + β2 EnDI + β3SDI + ε ------ (4)

Where:

1. PROF.=Profitability proxied by ROA,ROE & NPM.
2. SDR = Sustainability disclosure reporting surrogated by EcDI, EnDI & SDI.
3. ROA= Returns on asset obtained as a ratio profit after tax to total assets of the firms
4. ROE= Returns on equity derived as a ratio profit after tax to total equity of the firms
5. NPM= Net profit margin determined as a ratio net profit before tax to revenue of the firms
6. EcDI = Economic disclosure index, derived in compliance with category 1, GRI G4, 2018.
7. EnDI = Environmental disclosure index, derived in compliance with category 2, GRI G4, 2018.
8. SDI = Social disclosure index, derived in compliance with category 3, GRI G4, 2018.
9. *β0* is the intercept of the population regression line.
10. ε is the error term

4.0 RESULTS AND DISCUSSION

On the basis of the pharmaceutical industry, to evaluate the statistical properties of the variables, the descriptive analysis of the data collected and carried out in table 4.2.2. As presented in table 4.2.2, the average value of the ROA, a performance ratio of sample listed Nigeria pharmaceutical firms is -0.9 percent (-0.008557), this implies sample listed Nigeria pharmaceutical firms on average earned a net income of -0.9 percent of total asset with a maximum and minimum value of 0.136060 and -0.124486. The standard deviation is 0.072718.

The descriptive statistics result (Table 1) shows that the average value of the Returns on assets of the selected firms stood at 0.21 with associated standard deviation of 0.37%. The values range from -0.55% to 0.84% for the period under review. The average value of Optimal Cash Level stood at 6.36 with associated standard deviation of 0.64. The Jarque-Bera goodness of fit test which is a combined measure of Skewness and Kurtosis of the dataset indicates that Optimal Cash Level follow a normal and smooth distribution within the period under study.

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ROA	6	.1284	.3152	.212750	.0648160	.583	.845	.316	1.741

ROE	6	-.1397	.2968	.078950	.1402727	-.021	.845	1.964	1.741
NPM	6	.0509	.2096	.149133	.0667451	-.634	.845	-1.559	1.741
EcDI	6	.8200	.9300	.881667	.0549242	-.254	.845	-2.749	1.741
EnDI	6	.1500	.7100	.405000	.2195222	.076	.845	-1.271	1.741
SDI	6	.4300	.9300	.715000	.2102142	-.255	.845	-1.962	1.741
Valid N (listwise)	6								

SOURCE: SPSS 22.0 Statistical Software

The descriptive statistics result (Table 1) shows that the average value of the Returns on assets of the selected firms stood at 21% with associated standard deviation of 6.48%. The values range from 12.84% to 31.52% for the period of six (6) years. The average value of Return on equity stood at 7.90% with associated standard deviation of 14.03%. The values range from -13.97% to 29.68% for the period under review. The average value of the Net profit margin, still a profitability measure m was 14.91percent (0.149133) with a maximum and minimum value of 0.2096 and 0.0509. The standard deviation was 0.0667451.Still in table 1, the average value of the Economic disclosure index of the sampled firms stood at 0.881667 with associated standard deviation of 0.0549242.The values range from 0.8200 to 0.9300 for the period. Again, the average value of the Environmental disclosure index of the sampled firms was 0.405000 with associated standard deviation of 0.2195222.The values range from 0.1500 to 0.7100 for the period. The average value of the social disclosure index a sustainability measure was 0.715000 with a maximum and minimum value of 0.9300 and 0.4300. The standard deviation was 0.2102142.The goodness of fit test evident in a combined measure of Skewness and Kurtosis of the dataset indicates that Economic disclosure index, Environmental disclosure index and social disclosure index follow a normal and smooth distribution within the period under study.

4.1 Test of Hypotheses

Level of significance (_) = 0.05

Decision rule: Reject the null hypothesis if the p-value is less than 0.05; otherwise, do not reject.

With respect to the study, the null hypotheses are stated as follows;

Hypothesis 1

Ho: Sustainability reporting has no effect on the return on asset (ROA) of listed pharmaceutical firms in Nigeria

Table 2. Regression Analysis showing the effect of Economic, Envir

index on Return on Assets (ROA).

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	
1	(Constant)	.744	.869		.857	
	EcDI	-.971	1.196	-.823	-.812	
	EnDI	.082	.184	.279	.448	[illegible]
	SDI	.407	.271	1.321	1.503	.272

a. Dependent Variable: ROA

SOURCE: SPSS 22.0 Statistical Software

Table 3. Model summary of the Economic, Environmental and Social disclosure index on Return on Assets (ROA).

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.838[a]	.702	.254	.0559810	.702	1.568	3	2	.412	3.148

a. Predictors: (Constant), SDI, EnDI, EcDI

b. Dependent Variable: ROA

SOURCE: SPSS 22.0 Statistical Software

The empirical result (Table 2) shows that an increase in economic disclosure in Nigeria pharmaceutical firms by a unit will decrease the value of Return on assets by -0.823.This was evident by the negative (t-statistics -0.812) association economic disclosure index and return on assets of the sampled firms. The effect of economic disclosure index on return on assets of the selected firms was insignificant (p-value 0. .502).On the other hand, there is a positive (t-statistics, 0.448; 1.503) but insignificant (p-value 0.698; 0.272) association between both Environmental and Social disclosure index (respectively) and Return on Assets of the listed pharmaceutical firms. This positive effect implies that a 1% increase in disclosure of each independent variable will tend to increase the Return on Assets of the listed pharmaceutical firms by 0.279 and 1.321 respectively vis versa. Our finding disagrees with the finding of Lancee (2018) who found that sustainability reporting has significant effect on return on assets of firms. Our study however, affirms that sustainability reporting has insignificant effect on return on assets of pharmaceutical firms in Nigeria which can be positive or negative in term of relation.

From table 3, The R-square value of 0.702 (70.2%) indicates that only about 70.2% of the total variations in Return on assets is attributable to independent variables, Economic disclosure index, Environmental disclosure index and Social disclosure index while about 29.8% could be attributed to other factors capable of effecting changes in return on assets of listed pharmaceutical firms in Nigeria. Also, In this case, the Durbin-Watson statistic is 3.148. This indicates the absence of autocorrelation in the data series.

Hypothesis 2

Ho: Sustainability reporting has no effect on the return on equity (ROE) of listed pharmaceutical firms in Nigeria.

Table 4. Regression Analysis showing the effect of Economic, Environmental and Social disclosure index on Return on Equity (ROE).

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-1.657	2.213		-.749	.532
	EcDI	1.923	3.045	.753	.632	.592
	EnDI	-.312	.468	-.488	-.667	.573
	SDI	.234	.690	.351	.339	.767

a. Dependent Variable: ROE

SOURCE: SPSS 22.0 Statistical Software

Table 5. Model summary of the Economic, Environmental and Social disclosure index on Return on equity (ROE).

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.766[a]	.587	-.033	.1425522	.587	.947	3	2	.550	2.766

a. Predictors: (Constant), SDI, EnDI, EcDI
b. Dependent Variable: ROE
SOURCE: SPSS 22.0 Statistical Software

From the regression analysis, Table 4, indicates all the independent variables of this study have insignificant effect (0.592, 0.573 and 0.767) on return on equity with environmental disclosure index correlated negatively and the others having positive association with return on equity. This shows that an increase in economic and social disclosure in Nigeria pharmaceutical firms by a unit will increase the value of Return on equity by 0 .753 and 0.351 respectively. This environmental disclosure's negative effect implies that a 1% increase in environmental disclosure index will tend to decrease the level of Return on equity (ROE) by -0.488. This finding still disagrees with the research outcome of Lancee (2018) who found that sustainability reporting has significant effect on return on equity of firms.

From table 5, The R-square value of 0.587 (58.7%) indicates that only about 58.7%) of the total variations in Return on equity is attributable to independent variables, Economic disclosure index, Environmental disclosure index and Social disclosure index while about 41.3% could be attributed to other factors capable of effecting changes in return on equity of listed pharmaceutical firms in Nigeria. Also, In this case, the Durbin-Watson statistic is 2.766. This indicates the absence of autocorrelation in the data series.

Hypothesis 3
Ho: Sustainability reporting has no effect on the net profit margin (NPM) of listed pharmaceutical firms in Nigeria.

Table 6. Regression Analysis showing the effect of Economic, Environmental and Social disclosure index on Net profit margin (NPM).

Model		Unstandardized Coefficients: B	Std. Error	Standardized Coefficients: Beta	t	Sig.
1	(Constant)	-.450	1.146		-.393	.732
	EcDI	.641	1.577	.528	.407	.724
	EnDI	-.251	.242	-.825	-1.035	.409
	SDI	.189	.357	.596	.530	.649

a. Dependent Variable: NPM
SOURCE: SPSS 22.0 Statistical Software

Table 7. Model summary of the Economic, Environmental and Social disclosure index on Net profit margin (NPM).

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.715[a]	.511	-.223	.0738152	.511	.696	3	2	.635	1.800

a. Predictors: (Constant), SDI, EnDI, EcDI
b. Dependent Variable: NPM
SOURCE: SPSS 22.0 Statistical Software

From the regression analysis, Table 4, indicates all the independent variables of this study have insignificant effect (0.724, 0.409 and 0.649) on net profit margin with environmental disclosure index correlated negatively and the others having positive association with net profit margin. This shows that an increase in economic and social disclosure in Nigeria pharmaceutical firms by a unit will increase the value of net profit margin by 0 .528 and 0.530 respectively. This environmental disclosure's negative effect implies that a 1% increase in environmental disclosure index will tend to decrease the level of net profit margin by -0.825. This finding still not inconsonance with the research finding of Lancee (2018) who found that sustainability reporting has significant effect on net profit margin of firms.

From table 7, The R-square value of 0.511 (51.1%) indicates that only about 51.1% of the total variations in Net profit margin is attributable to independent variables, Economic disclosure index, Environmental disclosure index and Social disclosure index while about 48.9% could be attributed to other factors capable of effecting changes in Net profit margin of listed pharmaceutical firms in Nigeria. Also, In this case, the Durbin-Watson statistic is 1.800. This indicates the absence of autocorrelation in the data series.

5.0 CONCLUSION AND RECOMMENDATIONS

Conclusion

The empirical findings reveal that Environmental and Social disclosure have positive effect on Return on assets. The implication is that Environmental and Social disclosure should be given maximum and efficient consideration in the firms' disclosure requirement due to their positive influence on Return on assets.

The empirical evidence further revealed that Economic and Social disclosure indexes have positive effect on Return on equity. This implies that Economic and Social disclosure indexes needed optimum disclosure in the corporate life of firms especially on the return on equity of the pharmaceutical firms in Nigeria.

The result shows Economic and Social disclosure indexes have positive effect on Net profit margin. This implies that Economic and Social disclosure indexes should be given efficient consideration in the firms' disclosure requirement due to their positive influence on Net profit margin.

This study therefore concludes that sustainability reporting has statistical insignificant effect which can be associated positively or negatively on profitability of pharmaceutical firms in Nigeria.

Recommendations

Based on the findings of this study, the researcher recommends that:

1. Managers of pharmaceutical firms in Nigeria should maintain comprehensive sustainability disclosure especially the Environmental and Social disclosure index in order to boost the return on asset of the firms.
2. Managers of pharmaceutical firms in Nigeria should maintain due consideration on Economic and Social disclosure indexes in order to influence the equity level of the pharmaceutical firms in Nigeria.
3. managers of pharmaceutical firms in Nigeria should maintain efficient consideration on Economic and Social disclosure indexes in order to influence the net profit margin of the pharmaceutical firms in Nigeria

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