Effect of Sustainability Reporting on Financial Performance of Quoted Pharmaceutical Companies in Nigeria

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Abstract

The thrust of this study was to ascertain the effect of sustainability reporting on financial performance of quoted pharmaceutical companies in Nigeria for a period of ten (10) years spanning from 2012 to 2021. Ex-post facto and longitudinal research design was adopted. Sustainability disclosure which is the independent variable was captured using employee health and safety disclosure, social disclosure, environmental disclosure, and governance disclosure while financial performance which served as the dependent variable was measured using return on investment (ROI). Panel data were obtained from annual reports and accounts of the sampled health care companies and subjected to preliminary data tests such as descriptive analysis, correlation analysis, variance inflation factor analysis and hausman effects tests for the study period. Multiple panels least regression analysis was employed via E-Views 12. The results of the tested hypotheses revealed that employee health and safety disclosure, and social disclosure have positive and significant effect on financial performance of health care companies in Nigeria which was statistically significant at 95% confidence level respectively while a negative but insignificant effect was documented against environmental disclosure, governance disclosure and financial performance of health care companies in Nigeria. In conclusion, the findings shed light on the substitute and complementary relationship between performance and the increase in sustainability disclosure quality.

Keywords: *Sustainability Reporting; Employees Health and Safety Disclosure; Social Disclosure; Environmental Disclosure; Governance Disclosure*

1.1 Introduction

Considering the important role health care play in the lives of human population, Nigeria inclusive. It is pertinent that every aspect associated with the wellbeing of the society is given paramount attention. Pharmaceutical industry plays a vital role in ensuring this role is fulfilled. Sustainability report have become prevalent in most part the world and it has become appropriate to appreciate the impact on the financial performance of pharmaceutical companies in Nigeria. As at today, sustainability reporting practices in the pharmaceutical industry in Nigeria are not properly documented and screened. This lack of appreciation have had adverse effect towards the growth of the industry in Nigeria. Many past researchers has carried out studies on effect of sustainability reporting on financial performance found unreliable and inconsistent results. For example Chikwendu, Okafor and Jesuwunmi (2023), Nnamani, Onyekwelu and Ugwu (2017), Yusuf, Emmanuel, Akpan and Odumegwu (2020), Nzekwe, Okoye and Amahalu (2021),Syder, Ogbonna and Akani (2020),Ismail, Anwarul Islam and Shariful Haque (2021) Ezeokafor and Amahalu (2019), Ihimekpen (2021), Yazid, Mohammed, Agbi, Kaoje, and Umar (2021) reported positive relationship between sustainability reporting and financial performance among the quoted sectors.

Therefore, the problem to address in this study is the examination of the effect of sustainability reporting on financial performance of pharmaceutical companies in Nigeria. Specifically, by investigating the potential relationship between components of sustainability disclosure(Employee's health and safety, Social, Environment, Governance disclosure) which serves as the independent variable and financial indicator such as Return on Investment considered as dependent variables , The previous study mentioned adopted Panel regression, ordinary linear regression, multiple regression analysis, pooled Ordinary least Square regression as a as a method of Analysis while this current study adopt multiple panel least regression analysis via E-views 12.The researcher has decided to fill up some gaps left undone by some scholars by introducing Governance and return on Investment as variable which is inclusive in my webometric. This stands to expose the impact of sustainability reporting on the business outcome of pharmaceutical companies in Nigeria.

This report will identify the potential benefits or hindrance associated with sustainable reporting. The study will help decision makers and stakeholders in the pharmaceutical industry such as managers, executives, investors and regulators take informed decisions. Basically, better knowledge about this relationship can improve the overall sustainability and financial performance of Pharmaceutical industries in Nigeria. To achieve this purpose, the following hypotheses were formulated as thus;

$H0_1$: Employee health and safety disclosure has no significant effect on the financial performance of listed pharmaceutical firms in Nigeria

$H0_2$: Social disclosure has no significant effect on the financial performance of listed pharmaceutical firms in Nigeria

$H0_3$: Environmental disclosure has no significant effect on the financial performance of listed pharmaceutical firms in Nigeria

$H0_4$: Governance disclosure has no significant effect on the financial performance of listed pharmaceutical firms in Nigeria

2.0 Conceptual Review

2.1 Sustainability Reporting

The concept of sustainability reporting views as important both the traditional concern of business organization strategies for profit maximization, diversification, product differentiation as well as globally assessing the company performance on its environment. Sustainability Reporting (SR) is one of the non-financial reports produce by firms either as a standalone sustainability report or integrated in the company's annual reports and accounts. Sustainability Reporting can be described as the practice of reporting by firms or companies of such factors that are integral to the attainment of the United Nations' sustainable development goals. Global Reporting Initiative, GRI (2011) defines Sustainability Reporting as the activities and practice which is concern with measuring, disclosing, and being accountable to the needs and interest of firm's internal and external stakeholders for organizational effort towards the attainment of sustainable development goals.

There is no single, generally accepted definition of sustainability reporting. It is a broad term generally used to describe a company's reporting on its economic, environmental and social performance Omaliko & Okpala, 2022). It can be synonymous with triple bottom line reporting, corporate responsibility reporting and sustainable development reporting, but increasingly these terms are becoming more specific in meaning and therefore subset of sustainability reporting (KPMG, 2008). Jasch and Stasiskiene (2005) defines sustainability reporting as a subset of accounting and reporting that deals with activities, methods and systems to record, analyze and report, firstly, environmentally and socially induced financial impacts and secondly, ecological and social impacts of a defined economic system (example, a company, production site, and nation).

2.1.1 Environmental Disclosure:

Environmental disclosure is a form of corporate responsibility to the society as a result of activities which emerging a negative impact on the environment. Meanwhile, Environmental Disclosure is as the accountability of fulfilling the information needs of the company for investors, shareholders, customers, and other parties. The term 'environmental disclosure' is defined as the process through which the information was presented on the environmental obligations, which are resulting from a corporate daily activities (Omaliko, Onyeogubalu & Akwuobi, 2021). Although the concept of disclosure has one definition, whether environmentally or accounting, but it is noted that it is limited, in respect of accounting disclosure, to the presentation of the business results in the light of the accounting policies and concepts. It may not reflect the negative environmental effects resulting from the company's various activities. In such case, it results in shortage in the information presentation associated with the organization activities, in particular, the information related to the cost and environmental liabilities. This forms one of the challenges encountered by accounting recent years in which the industrial company's activities have increased and widened to include the negative effects resulting from dispensing toxic waste which is dangerous to the environment surrounding these companies (Al-Rashed, 2013). The environmental disclosure was also defined as "the presentation and provision of the data and information related to the environmental activities of the business facilities in the financial statements, which facilitates the work of the information users and decision-makers and lead to rationalize the decision in assessing the environmental performance of such companies".

2.1.2 Employee health and safety:

Employee safety refers to providing a safe working environment for employees by incorporating safe equipment and safe procedures at the workplace to ensure worker safety. Employee safety is important to maintain a good safe work environment to improve morale and efficiency, which in turn contribute to the growth and profitability of the company. Lack of safety procedures for employees could have legal and financial repercussions. Safety training, periodic safety inspections, and the provision of proper personal protective equipment (PPEs) are part of the employee safety mandate an organization must follow. It is the responsibility of every employer to provide healthy work environment to his employees. If he is careful about their health, cost of disability payments, replacement of employees who are injured or killed could be avoided. Through employee safety and health programs the company can enhance the emotional and physical well-being of the employees.

2.1.3 Social Disclosure

Social disclosure refers to a company's performance in offering information on societal programs implemented by the organization. To the extent that companies provide contents on their societal efforts, they are answering to societal requests and expectations regarding social disclosure. Corporate social responsibility disclosure discloses information on what the firms have done for the sake of the community. It also shows the disclosure of firms' action on what they have been contribute to the welfare of the society and what they will do in the future for the welfare and interest of the society. Usually the disclosure is disclosed in a social responsibility report and publishes in company's website or annual report of public listed companies. Corporate social responsibility disclosure is very important to company's stakeholder. The stakeholders of the company always take note to the disclosure because the disclosure shows what the company plan to do and have done for the welfare of the society. A recently report shows that most of the investors are invest in firms that have involve greatly in social responsibility. With actively involved in the activities of social responsibility, the company can increase their positive image emerge to the society. It can bring advantage to the companies with having increasing number of investors invest in the company and attract more supplier cooperates with them.

2.1.4 Governance Disclosure:

Governance refers specifically to the set of rules, controls, policies, and resolutions put in place to dictate corporate behavior. Proxy advisors and shareholders are important stakeholders who indirectly affect governance, but these are not examples of governance itself. The board of directors is pivotal in governance, and it can have major ramifications for equity valuation.

A company's corporate governance is important to investors since it shows a company's direction and business integrity. Good corporate governance helps companies build trust with investors and the community. As a result, corporate governance helps promote financial viability by creating a long-term investment opportunity for market participants. It considers the practical considerations for peculiarities for different firms operating in different sectors and of different sizes, and locations.

2.1.5 Concept of Financial Performance

In the world of finance, financial performance is measured to give the account of stewardship by the management team to the shareholders. The key aspect of this involves measuring the profitability, market value and growth prospect of a company. Accounting-based measures examines the nature of the relationship between some indicator of the social performance (reputation, revelation of social information, environmental behavior etc.) with the company's financial performance obtained from the accounting information such as the historical audited financial statements of the respective companies. It is a complete evaluation of a company's profitability. It is measured through various business-related formulas that allow users to calculate exact details regarding a company's potential effectiveness. For internal users, financial performance is examined to determine their respective companies' well-being and standing, among other benchmarks. For external users, financial performance is analyzed to dictate potential investment opportunities and to determine if a company is worth their while. Before calculations can be made on certain financial indicators that establish overall performance, a financial statement analysis must occur.

2.2 Theoretical Framework

2.2.1 Stakeholder 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. According to Freeman (1984), stakeholders are possible collection of people or persons who can influence or are influenced by the actions or activities of an organization. His definition for what or who stakeholders are was responsible for the foundation for which stakeholders' theory has been lay by successive scholars. According to Clan (1996), the principal idea of the concept of stakeholder theory is that organization's achievement is determined by the successful accomplishment of all the affiliation that an entity has with all its interested parties and all persons who it has direct interest/connections with. To him the higher the authority of such group or individual, the more the organization must comply. The general idea of the stakeholder concept is a redefinition of the organization. In general, the concept is about what the organization should be and how it should be conceptualized. Popa, Blidisel and Bogdan (2009) maintains 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.

Perrini and Tencati (2006) states 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 community and civil society in general, financial partners, etc. Friedman (2006) in Fontaine, Harman, and Schmid (2006) 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. The main groups of stakeholders are: customers, employees, local communities, suppliers and distributors, shareholders, the media, the public in general, business partners, future generations, past generations (founders of organizations), academics, competitors, government, regulators, policymakers etc. Thus, sustainability reporting provides a frame work to create value for stakeholders which translate to satisfying the interest of diverse group of stakeholders.

2.3 Empirical Review

Abdulkadir, Ismail and Yusuf (2022) This study investigates the association of environmental information disclosure and corporate financial performance for the steel industry. This study manufacturing industry listed companies in Nigeria Stock Exchange from. The environmental information disclosure includes environmental financial and non-financial information. The result disclosed that Disclosure on Material used (DMT) has insignificant negative effect on financial performance (ROA) of listed pharmaceutical manufacturing companies in Nigeria and The study also found that disclosure on environmental compliance has significant positive effect on financial performance of listed pharmaceutical manufacturing companies in Nigeria.

Abdulsalam and Babangida (2020) The main objective of this paper is to empirically investigate the significant effect of sales and firm size on sustainability reporting of oil and gas companies in Nigeria. The population of the paper consists of 24 oil and gas firms playing a major role in the upstream, midstream and downstream of the Nigerian oil and gas sector. Six of the companies were selected to form the sample size of the study for a period of fifteen years, from 2004 – 2018. Panel regression techniques were utilized to analyzed data obtained from annual accounts and stand-alone reports of the sample companies. The results show that firm characteristics proxies by sales growth and leverage exerts a negative significant effect whereas, firm size exert a positive significant effect on sustainability reporting and profitability of oil and gas companies in Nigeria. The paper, therefore, recommended oil and gas firms to consider a mixture of common stock, preferred stock and retained earnings as a form of capital structure than given a preference to debt financing.

Agu and Amedu (2018) This study set out to determine the effect of sustainability reporting on the profitability of listed pharmaceutical firms in Nigeria. An ex–post facto research design approach was adopted for the study. 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.

Asuquo, Dada and Onyeogaziri (2018) Sustainability has become an issue of major concern in the corporate world today. In recent times, investors have become more concerned about sustainability, hence sustainability has the potential to influence a firm's performance. This research examined the effect of sustainability reporting on corporate performance of selected quoted brewery firms in Nigeria. To determine the association between sustainability reporting and corporate performance, data was obtained from the audited financial statements of the three brewery firms under study for a period of five years (2012-2016). The result of the study shows that Employee health and safety Performance disclosure (EHSN), Environmental Performance disclosure (ENV) and Social Performance disclosure (SOC) have no significant effect on return on asset (ROA) of selected quoted firms in Nigeria.

Ezeokafor and Amahalu (2019) The objective of this study is to determine the effect of sustainability reporting on corporate performance of quoted oil and gas firms in Nigeria. This study adopted time series and cross-sectional analysis of selected oil and gas firms quoted on the Nigerian Stock Exchange as at 31st December 2017 for a period of seven years spanning from 2011 – 2017. This study made use of Ex-Post Facto research design. Data were gotten from secondary sources obtained from fact books, annual reports and accounts of the studied quoted oil and gas companies in Nigeria as at 31st December, 2017. The relevant data obtained were subjected to statistical analysis using Pearson correlation coefficient and multiple regression analysis via E-View 9.0 statistical software. The results of this study revealed that sustainability reporting (proxied by economic, environmental and social performance indices) has a significant positive effect on return on equity, net profit margin and earnings per share at 5% level of significance. The study recommended amongst others the need to adopt standardized Sustainability Index as this will help in putting pressure on companies to pay more attention to their environment and take much more seriously the issues of sustainable development.

Gabriel, Maurice and Bweseh (2020) The researcher is interested to determine the relationship between sustainability reporting and financial performance of firms from Nigeria and it is triggered by recent increase in sustainability reporting by firms in these countries. Secondary data extracted from published accounts of sampled firms were subjected to multiple regression analysis. Results from the study indicate that economic reporting and environmental reporting affect positively and significantly financial performance of Oil and Gas firms in Nigeria and Mozambique while social reporting had an insignificant negative effect on the performance of Oil and Gas firms in Nigeria and Mozambique. Additionally, the study found that sustainability reporting amongst Nigerian and Mozambican oil and gas companies differ significantly. The study concludes that economic and environmental reporting have a significant positive influence on the financial performance of firms while social reporting has a negative but insignificant influence on the financial performance of Oil and Gas companies in the two countries. The study recommends an international reporting standard to guide companies globally in reporting sustainability activities to enhance meaningful comparison among reporting companies within the same jurisdiction and even internationally.

3.0 Methodology

The study adopted *ex-post facto* research design. The study used secondary data that covered the period of ten (10) years from 2012 - 2021. The data was collected from the published financial statement of quoted pharmaceutical company and the Nigeria Exchange Limited Fact-book for the various years covered in the study. The population of this study is made up of all the seven (7) quoted pharmaceutical firms that are listed on the floor of the Nigerian Exchange Limited up to December, 2021. Since the population of the study is relatively low, the study used the entire population. Hence, the population of the study becomes the ample for the study. panel regression model was employed in the data analysis for study. Thus Hausman's test was applied to determine if fixed effect model is more appealing than the random effect model.

3.1 Model Specification

This study adapted the model from the study of Chikwendu, Okafor, & Jesuwunmi (2023) on the effect of sustainability reporting on company's performance of a selected Nigerian companies. The model is expressed as follows:

Company's Performance-CP = f(Sustainability Reporting-SR)
CP.(ROA) = f(SR- ECODIS,ENVIDIS,SOCIDIS)
ROAit = β0 + β1ECODISit+ β2ENVIDISit+ β3SOCIDISit
ROAit = β0+ β1ECODISit+ β2ENVIDISit+ β3SOCIDIS it+ µit

The model was modified to suit the variables to be used. Hence the model for the study was anchored on the objectives.

ROI = f(SOC, EHSD, GD, ENVD)……………………………………………1
This can be econometrically expressed as
$ROI_{it} = \beta_0 + \beta_1 SOD_{it} + \beta_2 EHSD_{it} + \beta_3 GD_{it} + \beta_4 ENVD + \varepsilon_{It}$……………………………………..2

Where:
ROI_{it}= financial performance ratio of firm I in year t
$SOCD_{it}$= social disclosure
$EHSD_{it}$ = employee health and safety disclosure
$ENVD_{it}$ = environmental disclosure
$GOVD_{it}$= governance disclosure
εit = The error term for firm I in year t.
β_0 = Constant coefficient (the intercept) and β1 to β4 = coefficients of the independent and control variables.

Decision Rule

Accept Null if P-Value is greater than 5% otherwise reject Alternate

4.0 Data Analysis

Table 1: Descriptive Statistics

	ROI	EHSD	SOCD	ENVD	GOVD
Mean	3.225588	0.867647	0.544118	0.132353	0.955882
Median	6.590000	1.000000	1.000000	0.000000	1.000000
Maximum	27.50000	1.000000	1.000000	1.000000	1.000000
Minimum	-30.46000	0.000000	0.000000	0.000000	0.000000
Std. Dev.	11.99069	0.341394	0.501753	0.341394	0.206883
Skewness	-0.783306	-2.169815	-0.177162	2.169815	-4.439912
Kurtosis	3.415359	5.708098	1.031386	5.708098	20.71282
Jarque-Bera	7.442595	74.13753	11.33612	74.13753	1112.353
Probability	0.024203	0.000000	0.003455	0.000000	0.000000
Sum	219.3400	59.00000	37.00000	9.000000	65.00000
Sum Sq. Dev.	9633.030	7.808824	16.86765	7.808824	2.867647
Observations	70	70	70	70	70

Source: Researcher's summary of descriptive result (2023) using E-view 12

The descriptive statistics result in table 1 above shows the mean values for each of the variables, their maximum values, minimum values, standard deviation and Jarque-Bera values which show the normality and nature of the data. The result provides some insight into the nature of the selected quoted health care firms from Nigeria Exchange limited that were used in the study. The aim of the descriptive statistics was to describe the general distributional properties of the data, to identify any unusual observations or any unusual patterns of observations that may cause problems for later analyses to be carried out on the data. Thus, initial exploration of the data using simple descriptive tools was provided to describe and summarize the data generated for the study. That is effect of sustainability disclosure on financial performance of health care companies in Nigeria as shown in table 1. The researcher sought to establish the central tendency and distribution of sustainability disclosure variables and financial performance among the selected listed health care firms in Nigeria. This section provides the descriptive statistics as per the objective of the study.

Firstly, it was observed that over the period under review, the sampled health care firms have average positive return on investment of 3.2255 within the period under review, the health care firms have maximum values of return on investment of 27.500 while the minimum value of return on investment was -30.460. The large difference between the maximum and minimum values of return on investment indicates that the performance of the health care firms differs greatly among the firms selected and over the period under review, this shows that the health care firms are not heterogeneous in nature. This extreme large value of ROI implies that some firm's investment in the sample performed poorly while some had very good ROI when compared to the average value. This therefore means that health care firms with mean value higher or equal to 3.2255 are high profitable firms with more return on their investment while health care firms with the value below 3.2255 are low profitable firms. Hence, it can be argued that health care firms had been efficient enough to generate a higher rate of return out of their asset investments. This therefore means that firms with ROI of 3.2255 and above are classified as above average performing firms while those with their ROI values below 3.2255 were classified as below average in their performance. ROI shows the ability of health care firms to generate profit from their investment and reflect how well health care firm's real investments resources to generate profits.

Employee health and safety disclosure show an average mean value of 0.867% with a median value of 1. The minimum and maximum values of employee health and safety disclosure as measured by dichotomous variable are 0 and 1 respectively. This implies that the data in the sampled firms deviate from the mean by 86.7%. The skewness for employee health and safety disclosure was -2.169 implying that data on employee health and safety disclosure were skewed to the left hence most values were bunched to the right of the distribution. The kurtosis for employee health and safety disclosure was 5.708 that is greater than 3 hence the distribution is said to be leptokurtic hence it may have few outliers. The Jacque-Bera statistic of 74.13 alongside its p-value (0.0000) indicates that the data satisfies normality. The finding shows that on average the sampled firms had above average disclosure score as measured using the GRI index.

The findings showed that the average social disclosure (corporate social responsibility) index for the 10 years period is 0.5441% (with minimum 0.0% and maximum 1) which is consistent with disclosure index by Omar et al. (2011) in conformity with the corporate performance. The finding shows that on average the sampled firms had above average disclosure score as measured using the index. The large difference between the maximum and minimum values indicates that the disclosure quality of health care companies differs greatly among the companies selected and over the period under review, this shows that the companies are not heterogeneous in nature. It can be deduced from the table that the mean disclosure score for corporate social responsibility was 0.5441 (54.41%) with a minimum score of 0.00 and a maximum score of 1 (100%). This implies that 54% of the firms engage in corporate social responsibility to see if their performance will be improved. The data have a standard deviation of 0.5017, this implies that the data in the sampled firms deviate from the mean by 50.17%. The skewness for social disclosure was -0.177 implying that data on social disclosure were skewed to the left hence most values were bunched to the right of the distribution. The kurtosis for social disclosure was 1.0313 that is less than 3 hence the distribution is said to be platykurtic and having few outliers. The Jacque-Bera statistic of 11.366 alongside its p-value (0.0034) indicates that the data satisfies normality. The finding shows that on average the sampled firms had above average disclosure score as measured using the GRI index.

The average mean for the involvement of health care companies towards environmental disclosure in Nigeria is about 13.23% at a maximum level of 1 and a minimum level of 0 being a dichotomous or dummy variable where 1 is assigned to companies with sections in annual report with water, energy, and emissions and other environmental qualitative information and 0 otherwise. This indicates that some companies do not disclose any of these environmental indices in their annual report while some are actively involving and disclosing majority of them. This implies that health care companies' involvement in environmental disclosure was about 13.23% during the period of the study and the deviation from the mean is 0.3413%. The value of skewness of 2.169 indicates that the data is positively skewed and therefore conforms to the symmetrical distribution requirement. Moreover, the coefficient of Kurtosis 5.708 also indicates that environmental disclosure variable meet the Gausian distribution criterion for normality and the Jacque-Bera statistic value of 74.13 alongside its p-value (0.0000) indicates that the data satisfies normality. It was also observed from the descriptive analysis that majority of the health care firms disclose sections in their annual report table of content with board profile and roles.

Also, the Jarque-Bera (JB) Probability which test for normality or existence of outliers or extreme value among the variables shows that majority of the variables are normally distributed at 1% levels of significance respectively with exception of return on investment that is normally distributed at 5% normality level. This means that no variables with outlier, even if there are, they are not likely to distort the conclusion and are therefore reliable for drawing generalization. This also justifies the use of panel least square estimation techniques. Hence, any recommendations made to a very large extent would represent the characteristics of the true population of study.

Table 2: Correlation Analysis Result

	ROI	EHSD	SOCD	ENVD	GOVD
ROI	1.000000				
EHSD	0.103951	1.000000			
SOCD	0.288004	0.426693	1.000000		
ENVD	0.080832	-0.103578	0.096102	1.000000	
GOVD	0.044745	-0.083907	0.234706	0.083907	1.000000

Source: researcher's summary of correlation result (2023) using E-view 12

The result of the correlation coefficient showed mixed correlation. This association identified buttresses the point that majority of our variables have positive relationship with varying degrees of direction. Furthermore, the strength of the relationship between variables measured by the Pearson product-moment correlation showed that the association between the variables is relatively small and was below the threshold of 0.80, suggesting the absence of the problem of multi- collinearity in the predictor variables. In this section we present and discuss the Pairwise correlations among the variables of sustainability disclosure and financial performance of health care companies.

The above results show that there exist a positive and strong association between financial performance measured using return on investment and employee health and safety disclosure and social disclosure (ROI/EHSD and SOCD = 0.1039 and 0.2889) respectively while another positive but weak association was documented against return on investment, environmental sustainability disclosure and governance disclosure (ROI/ENVD and GOVD = 0.0808 and 0.0447). In the same vein, a positive and very strong correlation is documented against employee health and safety disclosure and social disclosure (EHSD and SOCD = 0.4266). We discovered that employee health and safety disclosure and environmental disclosure and governance disclosure were negatively correlated (EHSD/ENVD and GOVD = -0.1035 and -0.0839) respectively. There exists a positive and strong association between social disclosure and governance disclosure (SOCD and GOVD = 0.234). In the same vein, a positive but weak correlation was documented against environmental sustainability disclosure and governance disclosure (ENVD and GOVD = 0.0839).

Multi-collinearity was tested by computing the Variance Inflation Factor (VIF) and its reciprocal or the tolerance. Collinearity diagnostics measure how much regressors are related to other regressors and how this affects the stability and variance of the regression estimates. To further check for multi-collinearity problem or to know whether the independent variables used are perfectly correlated, we conducted Variance Inflation Factor (VIF) to check for the multi-collinearity problem. The result of the Variance Inflation Factor (VIF) is provided below in table 3 below:

Table 3: Variance Inflation Factor Result

Variance Inflation Factors
Date: 03/11/23 Time: 10:29
Sample: 2012 2021
Included observations: 70

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	142.2419	9.210814	NA
EHSD	34.42684	3.860453	2.168627
SOCD	8.577665	1.286952	1.131100
ENVD	11.69355	1.083334	1.070763
GOVD	59.83089	5.503161	1.954489

Source: Researcher's summary of VIF result (2023)

As can be observed from the result of VIF in table 3 above, the mean value of the independent variables coefficient is less than 10. The variance inflation factor (VIF) values of all variables are less than 10; therefore, the effect of multi-collinearity is negligible. This implies that there was no multi-collinearity problem with the variables thus all the variables were maintained in the regression model. Therefore, it can be concluded that there is no problem of multi-collinearity. It can also be seen from the table that all the variables had a variance inflation factor (VIF) of less than 10: employee health and safety disclosure (2.167) approximately, social disclosure (1.131), environmental disclosure (1.071) approximately, and finally, governance disclosure (1.954). The variance inflation factors were consistently below ten showing a complete absence of multi-colinearity. This proves the appropriateness of the model of the study and it's fitting with the four independent variables. This implies that there was no multi-collinearity problem with the variables, thus all the variables were maintained in the regression model. This means that there are no variables with outlier, and none of the variables are highly correlated. Even if there are, they are not likely to distort the conclusion and are therefore reliable for drawing generalization. This also supports the use of Jacque Bera (JB) in descriptive analysis to check for the problem of normality and multi-collinearity. Our finding also justifies the use of panel least square estimation techniques. Hence, any recommendations made to a very large extent would represent the characteristics of the true population of study and thus can be used to draw conclusion.

Table 4: Hausman Effect Tests

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	5.651408	4	0.2267

Source: Researcher's summary of Hausman effect analysis result (2023)

The Hausman test result above shows a chi-square statistics value of 5.651 and probability value of 0.2267 which was greater than 5%, this means that there is heterogeneity in the collection of the firms' data. Since the Chi-square (Prob) value is greater than 5%, hence we accept the random effect and interpret its regression while the fixed effect is rejected. Hausman test shows that the random-effects estimation (REM) method is more appropriate than the fixed effects estimation (REM) method for all health care firms in Nigeria; hence the results from REM is presented and interpreted. This implies that the test considered the random effect as the most appropriate estimator and its result is presented below. Therefore, the study used the random effect to correct the problem of heterogeneity in the data used for the study; the random effect regression result is presented in table 5 below.

Table 5 Random Effect Regression Result

Cross-section random effects test equation:
Dependent Variable: ROI
Method: Panel Least Squares
Date: 03/11/23 Time: 10:27
Sample: 2012 2021
Periods included: 10
Cross-sections included: 7
Total panel (balanced) observations: 70

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.244562	12.85524	0.563549	0.5753
EHSD	0.780890	6.608034	2.118173	0.0063
SOCD	-4.930248	3.000919	-2.642913	0.0059
ENVD	-1.711884	3.486838	-0.490956	0.6253
GOVD	-1.869793	8.569866	-0.218182	0.8281

Effects Specification

Cross-section fixed (dummy variables)

Root MSE	7.422389	R-squared	0.611104
Mean dependent var	3.225588	Adjusted R-squared	0.542877

S.D. dependent var	11.99069	S.E. of regression	8.107010
Akaike info criterion	7.170408	Sum squared resid	3746.246
Schwarz criterion	7.529446	Log likelihood	-232.7939
Hannan-Quinn criter.	7.312670	F-statistic	8.956878
Durbin-Watson stat	1.928312	Prob(F-statistic)	0.000000

Source: Researcher's summary of regression result (2023)

From the result above, the study observed that the R. squared value was 0.611 (61%) and R-squared adjusted value was 0.543 (54.3%) approximately. The value of R- squared which is the coefficient of determination stood at 61% which implies that 61% of the systematic variations in individual dependent variables were explained in the model while about 39% were unexplained thereby captured by the stochastic error term. Again, the adjusted R-squared value which stood at 54.3% indicates that all the independent variables jointly explain about 54.3% of the system variation in sustainability disclosure practices of our sampled health care firms in Nigeria over the 10years period while about 45.7% of the total variations were unaccounted for, hence captured by the stochastic error term. The R-squared adjusted value indicates that sustainability disclosure practices variables used in this study explained about 54% of the variation in financial performance of health care firms quoted in Nigeria Exchange limited. This reveals that about 54% of what happens in financial performance of firms can be attributable to the sustainability disclosure variables selected for the study while about 46% were unexplained. Moreover, the F-statistics value of 8.956 and its probability value of 0.0000 shows that the financial performance used for the analysis were statistically significant at 1% level. This confirms the appropriateness of our model used for the analysis. The Durbin Watson statistics value of 1.928 reveals the absence of auto correlation and this means that the regression model is valid and can be used for statistical inference. Again, the Durbin Watson statistic of 1.928 showed that the model is well spread since the value is approximately 2 and that there have not been self or auto correlation problem and that error are independent of each other.

4.1 Discussion of Findings

In addition to the above, the specific findings from each explanatory variable were provided below. Therefore, in testing our hypotheses, we provide the individual explanatory variables discussion for each of the independent variables as follows:

H_{O1}: Employee health and safety disclosure has no significant effect on the financial performance of listed health care firms in Nigeria

The regression result in table 5 above showed that employee health and safety disclosure have a positive effect on financial performance of health care companies having recorded a positive coefficient value of 0.7808 and p-value of 0.9063 (β_1= 0.7808, p = 0.9063 ≥ α = 0.05). The coefficient value β_1 was positive showing that employee health and safety disclosure has a direct effect with financial performance of health care companies in Nigeria. By implication, this means that when information about employee health and safety is fully disclosed, it increases the financial performance of health care companies. The model infers that 1% increase in employee health and safety disclosure will exert 78% increase on financial performance of health care companies in Nigeria. By implication, this suggests that additional effort geared towards disclosing employee health and safety will lead to a more return on investment of health care companies. That is to say that operations and actions of employee health and safety disclosure must serve the underlying goal of enhancing overall performance, over a sustained period of time. The t-value of 2.1181 reveals that employee health and safety disclosure has a strong effect on financial performance of health care companies and its effect is statistically strong enough to improve performance hence a direct and significant effect was documented. The probability value of 0.0063 further confirms that the effect of employee health and safety disclosure on return on investment of firms in Nigeria is statistically significant at 5% level of significance. Our finding is in line with the findings of Syder, Ogbonna and Akani (2020), Oshiole, Elamah and Ndubuisi (2020) that found positive effect between employee health and safety disclosure and performance. As a result of this significant result documented, this dissertation therefore rejected our first null hypothesis (H_1) and conclude that employee health and safety disclosure has a positive and significant effect on financial performance of health care companies in Nigeria which was statistically significant at 5% level of significance.

$H0_2$ Social disclosure has no significant effect on the financial performance of listed health care firms in Nigeria

Based on t-statistics value of social disclosure measured using corporate social responsibility disclosure and its coefficient value on table 5 above, the result of the analysis revealed that social responsibility disclosure has negative coefficient value of -2.6429, and P-value of 0.0059. The result of the analysis from the model above indicates that social disclosure negatively affects financial performance of health care firms in Nigeria. The result revealed that decrease in social disclosure leads to increase in financial performance of health care sector in Nigeria. This means that a 1% decrease in compliance with full disclosure practices is associated with a 4.93% increase in profitability. By implication, this suggests that firms with less engagement in corporate social responsibility are more likely to involve in maintaining high profitability index. Continuing with the indirect effect mentioned, Samet and Jarboui’s (2017) point of view is consistent with that of Benlemlih and Bitar (2018) stating that the moderating role of CSR enhances performance and investment efficiency through reducing information asymmetry and agency conflicts. As well as improving management practices by taking stakeholders' rights into consideration. In addition, Cruise (2011), Cohen et al. (2011) and Cho et al. (2013) explain that providing further financial and non-financial information assists in reducing information asymmetry, especially for high-risk firms (Cui et al., 2018). Such information offers a more accurate picture regarding a firm's performance. This indicates that having a standardized disclosure for firm CSR practices increases firm performance due to disclosing more reliable and transparent information to investors. The t-value of -2.6429 reveals that social disclosure has a strong negative effect on performance of selected health care firms in Nigeria while the probability value of 0.0059 reveals that the effect of social disclosure is statistically significant at 5% level of significance. The p-value result further re-affirms the t-test statistics result. As a result of this significant result obtained, we therefore reject our second null hypothesis and conclude that social disclosure has negative and significant effect on financial performance of health care companies in Nigeria which was statistically significant at 5% level of significance.

$H0_3$: Environmental disclosure has no significant effect on the financial performance of listed health care firms in Nigeria

From the regression result in table 5 above, it was discovered that environmental disclosure has a negative and insignificant effect on return on investment having recorded a negative coefficient value of -1.7118 and p-value of 0.6253. The coefficient value (β_3) was negative showing that environmental disclosure has a negative effect on return on investment of listed health care companies in Nigeria. This means that a percentage decrease in environmental disclosure will lead to a percentage increase in the on return on investment of listed health care companies in Nigeria. Hence when firms disengage in actions that enhances environmental disclosure, it increases their performance by 1.7118 units. The model infers that 1% decrease in ENVD will exert 1.71% increase on return on investment of listed health care companies in Nigeria. By implication, this suggests that additional effort geared towards disclosing environmental issues will lead to a less return on investment because the money that would have used in investment is channeled towards environmental disclosure thereby reducing firm's profitability base. The t-value of 0.4909 reveals that environmental disclosure has a very strong effect on return on investment of listed health care companies in Nigeria but its effect is not strong enough to drive its performance. The probability value of 0.6253 further confirms that the effect of environmental disclosure on return on investment of listed health care companies in Nigeria is statistically insignificant. Our finding disagreed with the findings of Oshiole, Elamah and Ndubuisi (2020), Wei-Lun and Yan-kai (2019), Fahria, Sahibzada and Abdul (2016) that documented positive and significant effect between environmental disclosure and performance. As a result of this insignificant result documented, this dissertation therefore accepts our third null hypothesis and conclude that environmental disclosure has no significant effect on return on investment of listed health care companies in Nigeria.

$H0_4$: Governance disclosure has no significant effect on the financial performance of listed health care firms in Nigeria

It can be observed from the regression result in table 5 above that corporate governance disclosure has a negative coefficient value of -1.8697. This reveals a very strong but negative effect on performance of health care companies measured using return on investment. As indicated in table 5 above, there is a negative relationship between GOVD and ROI having recorded a negative coefficient value of -1.8697, t-statistics value of -0.2181 and p-value of 0.8281. By implication, it means that 1% decrease in corporate governance disclosure leads to increase in performance by 1.92% magnitude. Likewise, when the disclosure of governance is increased, it will adversely affect the profitability of health care companies. That is to say that governance disclosure was found to be statistically insignificant and negatively associated with the performance of health care companies in such a way that when information about board members are disclosed, it reduces their performance as a result of extra cost of printing extra pages for board profile. The t-value of -0.2181 reveals that corporate governance disclosure has a weak and negative effect on performance of selected health care firms in Nigeria while the probability value of 0.8281 reveals that the effect of corporate governance disclosure is statistically insignificant. As a result of this insignificant result obtained, we therefore accept our last null hypothesis (H_{04}) and conclude that governance disclosure has negative and insignificant effect on performance of selected health care companies in Nigeria.

5.0 Conclusion and Recommendations

Long but large, the performance of firms in terms of value maximization objective largely depends on the nature of businesses they operate, and the possible legal, political and environmental regulations, which constitute an important item of public policy within the scope of their operation. The nature of business a firm operates defines the risks attached to such business and risk constitutes a significant factor in the profitability of the firm's operation. A review of the theoretical and empirical literature revealed that with increasing pressure on firms to deliver, there has been a new emphasis on devising measures of corporate financial performance and incentive compensation plans that encourage managers to increase shareholder wealth by increasing their return on investment. From company to company, rules and principles regarding disclosures of information and its element varies. In one company, one element may be compulsory to disclose, and not in another. Our major objective was to ascertain the degree to which companies in health care sector in Nigeria reveals particular discretionary and voluntary information that affects the performance of the sector. This study reviews the literature on sustainability accounting disclosures. It explores the link between sustainability disclosure and performance of health care companies in Nigeria. Thus, the study concludes that sustainability reporting has significant effect on financial performance in Nigeria. The study draws recommendations from the findings of the empirical data analysis. The study makes the following recommendations as follows:

1. Enhancement of sustainability reporting practice. Pharmaceutical industries in Nigeria should inculcate the use of sustainability reporting as part of their reporting process. This should be in correlation with international reporting standard such as Global Reporting Initiative and ensure comprehensive reporting of environmental, social and governance {ESG} factors. Through enhanced transparency and accountability, companies can build trust among stakeholders and attract potential investors.

2. Fine tune and ensure clear sustainability goals. Pharmaceutical companies must ensure they outline clearly their priority with regards to sustainability goals which must align with their business plan. These goals must include reduction of gas emission, ensuring employees health and well begin is of almost priority, ethical sourcing of raw materials and acting in a socially responsible manner especially to the host community and environment at large. This can be done by setting measuring target that are traceable and display commitment towards development

3. Incorporation of sustainability concepts into the central role of the business model. To ensure maximization of sustainability reporting, pharmaceutical companies must incorporate the report as a central role in their operation and decision making process. This can be achieved. By aligning ESG factors into risk assessment procedures, Suppliers selection, product innovation and supply chain management, by making sustainability a strategic priority, companies can drive positive impact while enhancing financial performance.

4. Synergizing and sharing of knowledge with other stakeholders. There should be synergy between various stakeholders within the pharmaceutical industry in Nigeria,

including regulators, academia, NGO's, industrial associations among others towards knowledge sharing on how to collectively address sustainability challenges. Sharing of experiences, ensuring best practices within the industry, publishing of research findings can help accelerate the adoption of sustainability practice across the sector, leading to collective growth and improvement.

5. Regular evaluation and reporting of sustainability activities, pharmaceutical companies should ensure regular evaluation and report of their sustainability performance to assess the effectiveness of their initiatives. This will enable companies to identify areas for improvement, learn from successes and failures, and make data driven decisions. Transparency in reporting will also empower stakeholders to take informed decisions and support companies that prioritize sustainability.

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