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Corporate Social Responsibility and Performance of Listed Pharmaceutical Sector Firms in Nigeria

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ABSTRACT: *The purpose of this study was to examine the relationship between corporate social responsibility and performance of listed pharmaceutical companies in Nigeria. Using the ex-post facto research design, secondary data was collected from published annual reports of sampled five pharmaceutical companies listed on the Nigerian Exchange Group from 2015 to 2021. The ordinary least square regression technique was used in conjunction with E-views version 9 computer software to evaluate the collected data. Corporate social responsibility was found to have a positive and statistically significant relationship with profits for publicly listed pharmaceutical companies in Nigeria. Policies favoring an acceptable rise in corporate social responsibility were recommended as a goal for the management of pharmaceutical businesses.*

KEYWORDS: corporate social responsibility, performance, pharmaceutical sector

INTRODUCTION

Corporate social responsibility (CSR) is the inclusion of social, environmental and economic interests of all the stakeholders in the corporate decision-making of a firm. In other words, to practice CSR is to take into account the social, environmental, and financial needs of all of a company's stakeholders. Dynamic instability and globalized rivalry have had profound effects on today's corporate climate. Because of this volatility, businesses must regularly assess and update their management practices while maintaining a central emphasis on the provision of value to various stakeholders (Powei, 2020). Both the economic contestability of competing manufacturers and the social contestability associated with the inference of the marketplaces for manufactured commodities have difficulties due to externalities relating to items' effects on the surroundings and human health. As public concern about the effects of business on people and the planet grows, more companies are recognizing the need for CSR (Adebiyi & Muyideen, 2012). Businesses must demonstrate both fiscal and social responsibility (Bucholz, 2016).

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Companies use CSR to lessen the negative effects of their operations and increase the positive value they provide to their stakeholders (Evans & Agbola, 2016). There has been a dramatic growth in books and articles on CSR during the last decade. Businesses may primarily address the societal need in the areas where they work via CSR initiatives (Carroll & Shabana, 2015). It is a way of doing business that helps the world improve in the long run by benefiting everyone involved financially, socially, and environmentally. Economic, ethical, legal, and discretionary issues for employees, customers, neighbors, and governments are all part of CSR, as noted by Doh, Littell, & Quigley (2015), Salifu (2020), and others. By taking part in CSR, businesses may gain legitimacy in the eyes of many different demographics. CSR standards are practices and policies used by businesses to promote long-term financial, cultural and ecological health (Platonova, Asutay, Dixon, & Mohammad, 2016).

Corporate social responsibility includes the discretionary philanthropic, ethical, legal, and economic expectations the society has towards organizations at a given time (Sameer, 2021) Globalization of the economy and society advances in science and technology, and increased access to information are just a few of the causes that have highlighted the value of moral behavior and corporate social responsibility. Today, CSR has become a strategy which organizations use as an instrument to enhance their marketing image, customer satisfaction, and stakeholder’s acceptance (Aziz & Haron, 2021) and improve long-term performance. Discretionary philanthropic, ethical, legal, and economic obligations are the four pillars of Carroll's (1991) social responsibility for business is based on a pyramid of principles.

Philanthropic duty is defined as a company's willingness to engage in social action that is neither mandated by law nor is it considered morally obligatory by the firm itself (Kolk, 2016). Standards practices and norms are all part of an organization's ethical responsibilities. A company's legal obligation involves meeting the standards set by a law-abiding society. Direct or indirect actions that increase the company's profit or stock price fall within the purview of economic responsibility (Aziz & Haron, 2021).

To increase their efficiency, businesses are increasingly acknowledging and mitigating the harm their actions do to people and communities, the economy, and the natural world (Maqbool & Zamir, 2019). How efficiently a company uses its resources to accomplish its objectives is a key indicator of its performance (Mulika, 2015). It's how well an organization meets its stated goals in terms of market share, revenue, productivity, profits, and happy customers. Productivity is an indication of a company's efficiency and competitiveness in production and selling of goods and services and a measure of its overall performance. When discussing a company's profitability, we are referring to its ability to make a profit. Organizational efficiency may be gauged, at least in part, by looking at metrics like profitability (Ridwan & Mayapada, 2020).

Corporate social responsibility can advance both society and businesses. The terms "corporate social responsibility" and "triple bottom line" are sometimes used interchangeably nowadays. The triple bottom line is a way of looking at a corporate performance that takes into account the interconnectedness of the company's social, environmental, and financial impacts. The purpose of a triple-bottom-line strategy is to guarantee ethical, sustainable, and profitable corporate performance.

Demands on Nigerian businesses to care for their surrounding community have risen steadily over the last decade. There has been a growing need for businesses to take an active role in addressing social and environmental issues in their local communities (Adenike, Oyetunde, & Kolapo, 2019). The pharmaceutical industry has enormous potential and is crucial to the progress and prosperity of any economy because of the close relationship between health and, by extension, worker output. The company's primary emphasis was on creating pharmaceuticals for therapeutic purposes. Their focus is on manufacturing, testing, and promoting the many medications available (Wang & Xu, 2011). Pharmaceutical companies throughout the world are facing financial difficulties due to the rising demand for effective medications and trustworthy medical services. Similar to other sectors, the pharmaceutical business benefits greatly from CSR initiatives. Many pharmaceutical firms have boosted their reputations by aiding in global progress and providing access to lifesaving medicines throughout the globe.

(Ikechukwu, 2019; Oyetunde & Kolapo, Adenike, 2019; Ukpabi, Enyindah, Ikaba, Orji & Idatoru, 2014; Adebiyi & Muyideen, 2012) are only a few of the research that has been done on CSR and the operational effectiveness and productivity of businesses across all industries in Nigeria.

Statement of Problem

The impact of corporate social responsibility on a company's bottom line has been studied before, with mixed findings. Bidhari et al. (2013) investigated the connection between corporate social responsibility and financial performance and found that it had a major impact on ROA, ROE, and NPM. Novrianty and Ely (2015), Shaista and Sara (2014), Erdur and Kara (2014), Malik and Nadeem (2014), and others have proven that CSR has a substantial impact on ROA and ROE. Iqbal, Ahmad, Hamad, Bashir, and Sattar (2014), as well as Malik and Nadeem (2015), and Novrianty and Ely (2015), all reported results that were similar to these. However, contrary findings have indicated that CSR does not always lead to greater business success. According to Yaparto et al. (2013), CSR does not significantly affect ROA, ROE, or EPS. As with "profit after tax," "corporate social responsibility" and "profit after tax" are shown to have a negative correlation by Babalola (2012).

Reviews showed that several studies have been done on CSR but there is no or little research evidence on the true position of corporate social responsibility's (CSR) influence on the financial success of Nigeria's pharmaceutical industry from 2015 to 2021. The year 2015-2021 was chosen as the study year because within this period there was a transition of power at the center from the incumbent PDP to APC (in 2015) which triggered new economic reforms and the most dreaded COVID-19 lockdown was also experienced which affected most companies in diverse ways. It's important to keep in mind, however, that the majority of the research was conducted in countries other than Nigeria, and that several of the studies relied on primary data rather than secondary data and looked at industries other than pharmaceuticals. Few studies have used just secondary data to determine whether or not CSR has an impact on the bottom line of publicly traded pharmaceutical companies in Nigeria.

Few studies are however, carried out in the pharmaceutical industry; hence the current study investigated the effect of corporate social responsibility on performance of listed pharmaceutical firms in Nigeria with a view to filling the extant gap in literature. This general goal formed the basis of the questions answered and hypotheses tested in this study.

Besides, this study has made a significant feasible contribution on the area of CSR as it contains econometric outcome supports as well as the application of appropriate CSR strategies and policies. The literature revealed that the CSR concept is a voluntary participation and internationally recognized concept. Implementing this concept, pharmaceutical firms can gain the advantages and investors and all stakeholders can derive added benefits. This study filled the extant gap in literature that was identified on corporate social responsibility and performance nexus of Nigeria's pharmaceutical industry. This study also helped to improve the knowledge and give room for more research on pharmaceutical sector and CSR managerial practices in addition to providing support for the argument, which will encourage firms to increase investment in CSR practices.
The researchers have used the rest of the paper to report the literature reviewed for the study, the methodology adopted, the result of data analysis and discussion, and their conclusion and recommendations.

LITERATURE REVIEW

Conceptual Framework

Corporate Social Responsibility

According to Jamali and Mirshak (2017), CSR ensures the fulfillment of societal requirements and the dampening of negative signals in economic growth. CSR entails duties in the areas of economics, law, and ethics. Using this strategy, businesses in a country are evaluated based on their contributions to the national economy over a certain time frame (Nkanbra & Okorite, 2007). When evaluating a company's success and progress through time, CSR is a useful metric because of the positive correlation between the two (Sendil, 2015).

Arguments for and against the idea of CSR (or "corporate social responsibility") have existed for quite some time. It hinges on whether or not businesses are mainly considered economic systems whose only responsibility is to please their owners, or socioeconomic systems whose primary responsibility is to a wide range of interest groups, including their workers, customers, neighbors, and the environment. Source: Okeudo, 2012. There is no agreed-upon definition of CSR. Different academics have different definitions depending on their own unique experiences, perspectives, and attitudes. The term "corporate social responsibility" (often abbreviated as "CSR") is used to describe the many impacts that businesses have on the communities where they operate. Environmental safeguarding is only one of many such concerns, other are the provision of social amenities, financial support for medical research, and charitable giving. The 2017 work of Odetayo and Adeyemi. According to Black (2009), CSR can be broken down into four distinct areas: enterprise (offering assistance and implementing efforts to foster new firms and increase entrepreneurship), education (assisting in the exposure of young people to fresh ideas and opinions), arts and culture (promoting a broad range of cultural endeavors and unifying groups of people), and environment (encouraging actions that save ecosystems and improve the standard of life). You may find several examples of CSR in Onabanjo's (2015) article, including product lines, corporate philanthropy, employee service, environmental initiatives, marketing strategies, health, safety, and welfare of the staff. As Olaroyeke and Nasieku (2015) point out, CSR covers a broad spectrum of issues related to corporations' interactions with their surrounding communities. It's a set of procedures that exceeds what's required by law or what's good for the company's bottom line (McWilliams & Siegel, 2018). In this sense, it encompasses a broad variety of actions, such as those that benefit employees, the environment, the communities where a company's facilities are situated, and even investors (Bénabou & Tirole, 2017).

Plant closures, human rights, employee relations, community relations, business ethics, and the environment are only some of the many topics that fall under the umbrella of "corporate social responsibility," as defined by Enahoro, Akinyomi, and Olutoye (2018). In a nutshell, corporate social responsibility (CSR) is a way of thinking about issues of both social and environmental impact while making decisions. According to Harpreet (op. cit.), "Corporate Social Responsibility" (CSR) is "the systematic integration of concern for society into business decision-making and the simultaneous pursuit of sustainable development that benefits all stakeholders" (People, Planet, Profit). In the context of the triple bottom line, it is recognized that businesses aim to improve society in ways other than only financial gain (Mirfazli, 2018). With the proliferation of globalization in the business world, corporations must broaden their focus from satisfying just their owners' and customers' requirements to considering the interests of all parties who may be impacted by or have an impact on the company's operations. According to Odetayo, Adeyemi, and Sajuyigbe's (op cit) all-encompassing definition of CSR, businesses that act ethically and consider the interests of society's other stakeholders will be successful. In reality, the concept of corporate social responsibility (CSR) means how businesses may manage their operations to have a net beneficial effect on the social and economic well-being of their communities. A company's dedication is another meaning of this term to doing the right thing by its employees and the community at large while also making a positive impact on the economy.

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Performance: The success of a company has implications for its shareholders, its stakeholders, and the economy as a whole. Investors care about how much money they make. When a company is successful, its owners and financiers might reap more rewards. A company's success may boost the income of its workers, improve the lives of its customers, and improve the community in which it works. When a business succeeds, it brings in more money, which opens doors to new possibilities, some of which may result in more jobs and higher wages for the general populace. The success of a company is measured by how well it uses its resources to meet its goals. Rahul (2017) defines corporate performance as the extent to which a group is capable of its strategic goals within the constraints of its resources. According to Suleiman (2013), a company's success is a direct reflection of the quality with which its leaders evaluate and plan for the achievement of its goals and objectives. How efficiently a corporation uses its resources to create income is reflected in its performance. Financial performance, as described by Van-Horn (2005), is a subjective evaluation of a company's ability to use its core competencies to create profits.

Authors use a variety of metrics to assess effectiveness. Return on assets (ROA), market share, return on investment (ROI), gross profit, return on equity (ROE), return on sales (ROS), profitability, sales growth, revenue growth, export growth, and stock price are just a few of the many metrics that may be used to evaluate a company's success (Emekekwue, 2008).

Return on Assets: In the literature on corporate governance, return on assets is one of the most used accounting-based indicators of performance. According to Okafor (1983), Return on Assets (ROA) compares a business's earnings to the worth of its entirety of assets. It demonstrates how well the company's leadership has been able to put the company's resources to work. It's a way to demonstrate to investors how much money the firm has made thanks to its capital expenditures and gauge the efficiency with which those expenditures have been put to use. The rate of return on an organization's assets is the greatest indicator of how well its resources are being used. The return on assets reveals to stockholders the extent to which management is investing the company's capital in creating a profit. It is a ratio used to determine a company's profitability in relation to its gross revenue.

Return on Investment: Is a profitability ratio that determines how much money was made concerning how much was initially invested. A measure of an investment's effectiveness, or its relative effectiveness compared to other investments, is its return on investment (ROI). ROI is a ratio used to evaluate the profitability of an investment. The concept of ROI is not synonymous with the concept of profit. Your return on investment (ROI) is the amount of money you put into the firm minus the money you take out (or "net profit"). The term "return on investment" (or "ROI") refers to the profit that an investor realizes after allocating capital to a project. If your return on investment (ROI) is large, then suggests your earnings outweighed your expenditures. An investment's return on investment (ROI) is a common metric used in business (Joshua, 2015) to assess its efficacy and to compare the performance of other investments. That is to say, ROI calculates the amount of profit produced on investment as a proportion of the initial outlay. It demonstrates to potential backers how far their money goes in a certain venture. This ratio is used by investors not only as a yardstick of success but also as a yardstick against which other investments may be measured (Pandey, 2010).

Net Profit Margin: Profits per sale are measured by the net margin of profit. This budgeting-based indicator of performance may be considered Innovative since it compares profit from the past to sales forecasted for the current quarter. Profit margin is the amount of money left over after expenses are deducted from sales revenue. The key takeaway is data on the margin of profit that may be achieved via sales. The net profit margin of a mature business should steadily rise. The net profit margin refers to the ratio of a company's or division's net profits to its total sales. The percentage of sales that result in net income is known as a company's net profit margin. Subtracting total revenue from all of a company's expenditures, such as those for running the business, purchasing products (including raw materials), and paying taxes, yields net income or net profit.

Theoretical Framework

Two theories which provided the foundation for this study are Social identity theory and Stakeholder theory**.**

Social Identity Theory

In 1985, Tajfel and Turner created Social Identity Theory (SIT) (Ashforth & Mael, 1989, referenced in Ching et al., 2015). It specifies how a company ought to act to provide a healthy setting for all of its constituents. According to SIT, group affiliation shapes how people see themselves, which in turn affects their loyalty to businesses and other groups. SIT has been used frequently to describe the management of both customers and employees. Employee and consumer loyalty and satisfaction are ensured when stakeholders readily identify with the business. This lowers the overall cost of acquiring and keeping both employees and customers. The theory's main flaw is that it requires an established reputation for the company before it can inspire loyalty in its workers and clients (Ching et al., 2015).

Stakeholder Theory

According to Freeman's (1984) stakeholder theory, it is not enough for a business to just maximize profits; it must also optimize stakeholder satisfaction. It acknowledges that businesses owe something to a diverse and interconnected group of people or groups (Sweeney, 2009; Harrison and Wicks, 2013). Relationships with stakeholders, according to the theory, boost both a company's performance and its ability to compete in the market (Tilakasiri, 2012; Yin, Rothlin, Li, & Caccamo, 2013). Stakeholders are those who have influence over an organization's actions or who are directly impacted by them (Freeman, 1984; bearers (Sweeney, 2009). Companies have both legally binding and unwritten agreements with their constituents (Freeman, 1984). Employees, consumers, suppliers, local communities, media, government, non-governmental organizations (NGOs), and environmental activists are some of the most important groups affected by a company's actions (Freeman et al., 2010). As previously discussed, (Chen, 2015; Sweeney, 2009; Tilakasiri, 2012), Stakeholder theory provides a useful framework for analyzing CSR. According to Weiss (2008) as cited by Tilakasiri (2012), stakeholder theory's advocacy for treating all stakeholders fairly is a key flaw, which conflicts with the fundamental business aim of generating profits as argued by Friedman (1984). This theory's main merit is that it requires companies to take action above and above what is required by regulators, hence increasing the likelihood of the prosperity and survival of the company in the long run (Mele, 2008, as quoted in Tilakasiri, 2012). The notion of stakeholders provides the foundation for this study.

Empirical Review

The empirical study of corporate social responsibility's (CSR) effect on profits in Chinese-listed firms was conducted by Yang (2012). Through an analysis of 2008-2009 standalone CSR reports, this study seeks to (1) comprehend CSR's evolution in China during the previous several years and (2) quantify the impacts of CSR on business performance. To analyze the data, probit regression was used. Tobin's Q (Tobin Qt), market return (Mktt), the percentage change in sales (%Salest), and return on assets (ROAt) are the independent variables employed in the analysis. The findings suggested that Chinese businesses have improved their CSR procedures. According to the results of this study, corporate social responsibility (CSR) disclosure significantly improves a company's financial results disclosure is favorably linked with preceding financial performance.

Italian-listed businesses were used in an investigation of CSR and company performance by Giovanni, Francesca, and Izzo (2014). The purpose of this study is to test the hypothesis that are not Italian-listed businesses' voluntary disclosures regarding their Corporate Social Responsibility affect their stock prices. Using a sample of Italian-listed businesses, the empirical research examines the correlation between CSR reports and company stock prices over three years. All computed CSR (employee, environmental, and community) coefficients have a very low t-statistic, indicating that CSR parameters have no relationship with the firm stock price.

The effect of CSR on Nigerian companies' bottom lines was studied by Babalola (2012). Ten (10) companies' annual reports and performance summaries were used as data sources between 1999 and 2008. The research used many statistical methods to examine the connection between the two variables, such as analysis of variance, correlation, and regression (ANOVA). Based on the data, it seems that the sampled companies allocated less than 10% of their yearly earnings to CSR initiatives. The information also showed that none of the companies in the study allocated more than 10% of their yearly earnings to CSR initiatives. However, as the preceding empirical research indicates, the correlation between PAT and CSR is negative investments and the firm's performance metric of profitability after taxes, indicating an adverse link between the two.

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Novrianty and Ely (2015) looked at how CSR impacts profits for businesses. Profitability measures including ROA, ROE, NPM, and EPS were used to analyze the impact of CSR on performance. Companies in the mining and basic industrial chemicals sector that were traded on the Indonesia Stock Exchange between 2009 and 2012 made up the study's population, and the purposive sampling method was utilized to choose the sample for analysis. The number of businesses surveyed was 24. Multiple linear regression analysis was performed to quantitatively examine the data in this investigation. This research shows that ROA, ROE, NPM, and EPS are all affected by CSR alongside control factors like leverage (DER) and size. There is a non-negligible influence of CSR on ROA and NPM, but no effect on ROE and EPS.

In a 2014 study, Singh analyzed how publicly disclosed CSR initiatives affected UK companies' bottom lines. This project looked at three different sectors in the United Kingdom's economy: mining for metal ores and concentrates, petroleum and natural gas extraction, and the production of basic medicinal goods and preparations. Over five years, from 2008 to 2012, we analyzed how often certain CSR phrases appeared in the annual reports of participating companies. Tobin's Q, ROA, and TSR are used to evaluate the financial health of the companies. The data is then put through a linear regression analysis to confirm the effect of CSR disclosure on company profits. The findings for the selected sectors in the UK reveal that CSR disclosure has no long-term or short-term effect on financial performance.

Using publicly traded Nigerian enterprises as case studies, Oboreh and Arukaroha (2021) investigated CSR's impact on business outcomes. All companies registered on the Nigeria Stock The participants in this study, which used a retrospective research methodology informed by the concept of stakeholder theory and the theory of intellectual moral growth proposed by Lawrence Kohlberg, are the exchange. Thirty businesses were chosen at random using a convenience sampling method. The information utilized in this analysis was collected from each company's 2020 yearly statement and accounting report. The formulated data were analyzed using basic linear regression and descriptive statistics. Return on assets, return on investment, return on equity, and net profit margin were all utilized as dependent variables, with CSR spending serving as the independent variable. The research indicates that the ROI, ROE, and NPM of the firms investigated are significantly impacted by their CSR spending. The findings of the research indicate that CSR has a positive impact on business outcomes. In light of these results, the authors recommend that Nigerian businesses prioritize community service and environmental conservation in their corporate social responsibility efforts.

Azumah (2020) looked at how CSR affected the success of Nigerian pharmaceutical companies. The Ariaria Shoe & Footwear Company Ltd.: A Case Study (2005-2006). Through the use of ordinary least square regression on aggregated annual data, it's possible to figure out how both the independent and dependent variables are connected. This research used a straightforward linear regression model. Spending on corporate social responsibility (ECSR) is the independent variable, with performance measures serving as the dependent variable. Non-financial performance indicators include: employee productivity rate (EMR), average manufacturing capacity utilization (AMCU), and company output rate (COR), in addition to measures of monetary efficiency such as profit after AFV tax, PAT and ROI. Ordinary Least Squares (OLS) is the approach used to calculate an approximation of the model's parameters. This research confirms previous findings that ECSR (Corporate Social Responsibility Expenditure) positively impacts manufacturing companies' bottom lines and other metrics. The study questions aim, and results inform some suggestions, the most notable of which is an increase in CSR investment to strengthen the positive, mutually beneficial connection between CSR and company success.

The literature study revealed that although many studies have been conducted on CSR, none or very little research data exists on the actual CSR's impact on productivity and where it stands of pharmaceutical enterprises in Nigeria between the years 2015 and 2021. The current research aims to close the aforementioned knowledge gaps.

METHODOLOGY

The study adopted the ex-post facto research design, which allows data existing in records of the company to be extracted. The data in use have been obtained through secondary sources, i.e. extraction from annual reports and accounts of selected and listed pharmaceutical companies. All 134 Nigerian pharmaceutical firms with valid registrations make up the research population. Five pharmaceutical companies were chosen at random since these are the only kind of businesses allowed to be listed on the Nigeria Exchange Group. Companies like Glaxo Smith Kline Consumer PLC, Neimeth International PLC, Morison Industries PLC, Fidson Healthcare, and May & Baker Nig. PLC was picked.

Here is the model's functional form definition. It demonstrates that CSR spending, as a proxy for corporate social responsibility, is functionally connected to ROA, ROI, and NPM.

The linear regression models are stated in a functional form;
$ROA = f(CSRE)$ (1)
$ROI = f(CSRE)$ (2)
$NPM = f(CSRE)$ (3)
Where CSRE = Corporate Social Responsibility Expenditure
ROA = Return on Assets
ROI = Return on Investment
NPM = Net Profit Margin
This equation can be restated in an econometric form:
$ROA_t = a_{ot} + a_1CSRE_t + \mu$ (4)
$ROI = a_o + a1CSRE_t + \mu$ (6)

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$NPM = ao + a_1CSRE_t + \mu$ (7)
Where ao = Autonomous or intercept a1 = Coefficient of parameter CSRE µ = Stochastic variable or error term
Ordinary Least Squares was used to examine the data in E-VIEWS statistics. From 2015 to 2021, the correlation between CSR and financial performance of publicly traded pharmaceutical companies was calculated using the modified coefficient of determination (adj. R2). If the p-value is less than 0.05, the null hypothesis may be rejected; otherwise, it can be accepted.

RESULTS AND DISCUSSION

Results of Analysis

TABLE 1: Descriptive statistics

	CSRE	ROA	ROI	NPM
Mean	2.09E+08	0.049886	0.139629	0.476414
Median	95568156	0.044200	0.124300	0.489400
Maximum	6.84E+08	0.142500	0.299400	0.530000
Minimum	49200000	0.004800	0.009800	0.389400
Std. Dev.	2.34E+08	0.045087	0.097627	0.054783
Skewness	1.371593	1.305223	0.314287	-0.566882
Kurtosis	3.424643	3.708247	2.220763	1.870795
Jarque-Bera	2.247404	2.133845	0.292342	0.746820
Probability	0.325074	0.344066	0.864010	0.688383
Sum	1.47E+09	0.349200	0.977400	3.334900
Sum Sq. Dev.	3.28E+17	0.012197	0.057186	0.018007
Observations	7	7	7	7

E-Views Output (2023)

The average value of CSRE was approximately 2.09E+08. ROA, ROI, and NPM had mean values of 0.049886, 0.139629, and 0.476414 respectively. This shows that the average CSRE for all listed pharmaceutical firms is roughly 3 billion between 2015 and 2021. All of the variables are positively skewed, according to descriptive statistics, which is an essential statistic that assesses variance in the series' dispersion on its mean. Since the skewness values are all positive, we know that the data are right-skewed, with the right tail being much longer than the left. Finally, the results of the Jarque-Bera (JB) test—which looks for outliers and extreme values over a set of variables—indicate that everything is regularly distributed.

Table 2: **Correlation matrix of the selected variables**

Variables	CSRE	ROA	ROI	NPM
CSRE	1			
ROA	0.8218	1		
ROI	0.5951	0.9083	1	
NPM	-0.04168	0.4083	0.7009	1

E-Views Output (2023)

The table above revealed that CSRE had a positive, strong relationship with ROA and ROI respectively, and a negative weak relationship with NPM.

Testing Hypotheses

Hypothesis 1

Among Nigeria's publicly traded pharmaceutical companies, there is no correlation between CSRE spending and return on asset (ROA).

Table 3: Linear regression analysis on Corporate Social Responsibility and Return on Assets

Dependent Variable: ROA
Method: Least Squares
Date: 04/04/23 Time: 11:33
Sample: 2015 2021
Included observations: 7

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.016724	0.014794	1.130499	0.3096
CSRE	1.58E-10	4.91E-11	3.225204	0.0233

R-squared	0.675366	Mean dependent var	0.049886
Adjusted R-squared	0.610439	S.D. dependent var	0.045087
S.E. of regression	0.028141	Akaike info criterion	-4.068215
Sum squared resid	0.003960	Schwarz criterion	-4.083669
Log-likelihood	16.23875	Hannan-Quinn criter.	-4.259226
F-statistic	10.40194	Durbin-Watson stat	1.778707
Prob(F-statistic)	0.023330		

E-Views Output (2023)

Using an adjusted R2 of 0.6104, we can see that the dependent variable's variation is explained by 67.54 percent of the total. With an F-statistic of 10.40, we can rule out the possibility that any regression coefficient is zero. The F-statistic and the modified R2 for the regression model both indicate that the model fits the data well and can account for randomness in ROA. The coefficient and t-statistic for our dependent variable (ROA) were both positive [t-statistic (3.2252), p (0.0233

< 0.05)]. It may be concluded that H0 is false. Therefore, listed pharmaceutical enterprises in Nigeria's ROA significantly correlate with their CSRE spending.

Hypothesis 2
CSRE spending by publicly traded Nigerian pharmaceutical companies has no appreciable effect on ROI.

Table 4: Corporate Social Responsibility and Return on Investment

Dependent Variable: ROI
Method: Least Squares
Date: 04/04/23 Time: 11:35
Sample: 2015 2021
Included observations: 7

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.087630	0.045181	1.939548	0.1101
CSRE	2.48E-10	1.50E-10	1.655884	0.0186

R-squared	0.354168	Mean dependent var	0.139629
Adjusted R-squared	0.225002	S.D. dependent var	0.097627
S.E. of regression	0.085945	Akaike info criterion	-1.835259
Sum squared resid	0.036933	Schwarz criterion	-1.850713
Log-likelihood	8.423407	Hannan-Quinn criter.	-2.026271
F-statistic	2.741952	Durbin-Watson stat	1.113942
Prob(F-statistic)	0.158648		

E-Views Output (2023)
Adjusting the R-squared value to 0.225 explains 35.41 percentage points of variation in the dependent variable. With an F-statistic of 2.74, we can rule out the possibility that each regression coefficient is zero (p.05). Both the F-statistic and the modified R2 for the regression model indicate that it fits the data well and can account for randomness in ROI. The coefficient and t-statistic for our dependent variable (ROI) were both positive [t-statistic (1.6558), p (0.0186 <0.05)]. It may be concluded that H0 is false. Therefore, the ROI of publicly traded Nigerian pharmaceutical companies is significantly correlated with their CSRE spending.

Hypothesis 3
H03: CSRE and NPM of Nigerian pharmaceutical companies that are publicly traded have no discernible correlation.

Table 5: Corporate Social Responsibility and Net Profit Margin

Dependent Variable: NPM
Method: Least Squares
Date: 04/04/23 Time: 11:37

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Sample: 2015 2021
Included observations: 7

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.478458	0.031520	15.17938	0.0000
CSRE	-9.76E-12	1.05E-10	-0.093280	0.9293

R-squared	0.001737	Mean dependent var	0.476414
Adjusted R-squared	-0.197915	S.D. dependent var	0.054783
S.E. of regression	0.059959	Akaike info criterion	-2.555346
Sum squared resid	0.017976	Schwarz criterion	-2.570801
Log-likelihood	10.94371	Hannan-Quinn criter.	-2.746358
F-statistic	0.008701	Durbin-Watson stat	1.053108
Prob(F-statistic)	0.929303		

E-Views Output (2023)

Using an adjusted R2 of 0.197, we can explain 1.71 percentage points of variation in the dependent variable. Since the F-statistic was only 0.008, we cannot conclude that all of the regression coefficients are zero. (p. F-statistics and an adjusted R2 for the regression model both indicate that the model fits the data well and can explain variations in net profit margin. The coefficient and t-statistic for our dependent variable (ROI) were negative [t-statistic (-0.093280), p (0.9293 >0.05)]. As a result, we maintain the null hypothesis. As a result, CSRE and NPM among Nigeria's publicly traded pharmaceutical companies are not significantly linked.

DISCUSSIONS OF FINDINGS

Corporate Social Responsibility and Return on Assets

A favorable and robust correlation between CSRE spending and ROA was found for Nigerian pharmaceutical companies that were publicly traded. Using an adjusted R2 of 0.6104, we can see that the dependent variable's variation is explained by 67.54 percent of the total. Corporate social responsibility budgets have been shown to provide a statistically significant increase in ROA. These results corroborate the findings of Oborhand and Arukaroha (2021), Azumah (2020), and Singh (2014), who found that CSRE spending significantly affects ROA for publicly traded companies. Givovanni et al. (2014) and Novranty and Ely (2015) found no correlation between CSRE and ROA, however, our results contradict these.

Corporate Social Responsibility and Return on Investment

An examination of the data reveals a robust relationship between CSRE expenditures and increased return on investment for publicly listed pharmaceutical firms in Nigeria. The dependent variable's variance is reduced by 35.41 percentage points after adjusting the R-squared value to 0.225. Moreover, CSRE investments do provide a positive return on investment. The conclusions of Oborhand and Arukaroha (2021) are supported by these data. The conclusions of Oborhand and

Arukaroha (2021), Azumah (2020), and Singh (2014) are supported by these data, who all found that CSRE spending significantly affected the ROI of publicly traded companies. This, however, contradicts the results of Givovanni et al. (2014) and Novranty and Ely (2015), who found no correlation between CSRE and ROI.

Corporate Social Responsibility and Net Profit Margin

Corporate social responsibility spending is weakly correlated with the net profit margin for listed Nigerian pharmaceutical companies, according to the data. With an adjusted R2 of 0.225, we can account for 1.71 percentage points of variation in the dependent variable. Furthermore, there is no statistically significant correlation between CSRE spending and ROI. These results corroborate the findings of Babalola (2012), who found no correlation between CSRE spending and the bottom line of publicly traded companies. Contrary to what Yang (2012) found, CSRE does not correlate significantly with the net profit margin of listed Chinese companies.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study investigated the link between corporate social responsibility and performance of pharmaceutical companies in Nigeria. Based on the ex-post facto research design, secondary data was collected from five pharmaceutical firms from 2015 to 2021. Analysis of data was done using ordinary least squares technique assisted by the E-views version 9 software. The results showed a positive and significant relationship between CSR and financial performance in pharmaceutical sector. This study also established that CSR has a positive, strong and significant relationship with return on assets and return on investment of listed pharmaceutical firms in Nigeria and has a negative, weak and insignificant relationship with net profit margin. Thus investment in CSR will boost performance of pharmaceutical firms and improve stakeholder’s wealth in the long run.

In order to meet up with the innovative evolution in the economic market in recent times; where investors are more particular about the social and environmental performances of firms along with their financial performance. Investors are looking for firms that are responsible to other stakeholders in the event of maximizing profits. The study, therefore, has shown that listed Nigerian pharmaceutical enterprises who participate in CSR have a favorable, robust, and statistically significant increase in their return on assets and return on investments. The research also confirmed that CSR spending by Nigerian pharmaceutical companies had a negative, modest, and small effect on the companies' net profit margins.

Recommendations

The following suggestions were made in light of the results:

i. To improve their performance and cohabit peacefully with the people around them, the research proposes that pharmaceutical enterprises in Nigeria's dedication to environmental protection and community improvement has been bolstered as part of the country's increased emphasis on social responsibility.

ii. If Nigerian businesses want to keep their host communities from disrupting operations, their management teams should take a proactive stance on social responsibility concerns rather than reactive ones.

iii. To maintain a favorable and considerable influence on the financial performance of pharmaceutical enterprises, there must be an increase in ECSR (Spending on CSR by Corporations).

Contributions to Knowledge

The research has advanced our understanding by bridging the following gaps:

1) Between 2015 and 2021, this research establishes the real position of how much of a difference CSR makes to the bottom line for Nigeria's pharmaceutical companies.

2) In this report, the researchers used pharmaceutical companies' publicly available financial information to isolate CSR spending.

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