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Green Accounting and Firm Value of Healthcare Firms in Nigeria

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Abstract

In this study, the researcher examined green accounting and the firm value of healthcare companies in Nigeria. The study's objective was to investigate the effect of greenhouse gas emission accounting and renewable energy accounting sources on the earnings per share and market capitalization of healthcare firms in Nigeria. The descriptive research design was adopted. Data on six (6) healthcare firms listed on the Nigerian Exchange Limited (NGX) were used in the study with variables cost associated with the reduction of greenhouse gas emissions and investments in renewable energy used as proxies for green accounting, and Earnings per Share (EPS), and market capitalization used as indicators of firm value. The data was collected from the annual reports and financial statements of the listed healthcare firms in Nigeria. The data covered 14 years (2010-2023). The data was analyzed using descriptive and inferential statistical techniques. The findings revealed that costs associated with greenhouse gas emissions have a positive effect on earnings per share (EPS) and market capitalization of healthcare firms in Nigeria. Also, investments in renewable energy have a positive effect on earnings per share (EPS) and market capitalization of healthcare firms in Nigeria. It was concluded that green accounting has a positive effect on the value of healthcare firms in Nigeria. Recommendations made include the need for healthcare firms to sustain their green accounting practices in Nigeria and for the relevant supervisory institutions to sustain the enforcement of this practice to enhance the value of healthcare firms in Nigeria.

Keywords: *Green Accounting, Firm Value, Healthcare Firms*

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Background to the Study

There is an increasing shift from the traditional measures of the performance of firms in society from mainly being that of profit maximization, wealth maximization, and corporate social responsibility. Firms are now requested to become more environmentally responsible since most of their productive business activities, supply chain operations, and other services are drawn from the environment. Globally, firms are being requested to become more environmentally sustainable by reducing the different levels of emissions that emanate from their activities and impair the environment through pollution and ozone layer depletion caused by greenhouse gas emissions and environmental degradation (Nwafor, Asuquo, Inyang and Fadenipo, 2021; Daferighe, 2010). Based on this, there are calls for firms regardless of the sectors where they operate to report all their activities that impact the environment in their annual reports of operations (Chude, Chude and Egbunike, 2022). Formerly, these reports center on financial transactions, but today they are expected to report financial, environmental, social, and economic factors that bear on their operations (Almaliki, 2019; Onipe, 2018). With this increasing scrutiny on firms to present how their activities impact the environment and their efforts to mitigate such, the concept and practice of green accounting has emerged globally.

Based on this, green accounting has become part of many organizations in Nigeria and globally, and involves the integration of environmental costs into the financial operations of public [and also private] companies (Ekubiat, 2020; Eze, 2021). This is based on ensuring that these public and private firms report to their shareholders and other stakeholders their ability and capacity to maximize profit and shareholders' funds and sustain and protect the planet (Azzam and Alqudah, 2020). As such, it is not unusual to see companies make public sustainability reports where they report their environmental disclosures alongside their key performance indicators in this regard. Hence through this, these companies make disclosures on their support of biodiversity, management of wastes, recycling of materials, and cutting down their tier I, II, and III emissions (Akpan and Nkanta, 2023; Illiemena, 2020).

In the reports, all the costs associated with planting new trees to help reduce deforestation and possible desert encroachment are reported. Also, there are reports on the costs of reducing the use of energy through investments in energy-reducing production processes, changing suppliers, embarking on green practices that reduce their level of emissions and carbon footprints, and investing in new recycling technology to boost their climate or environmental sustainability efforts. These are expected to account for the activities of these firms especially the manufacturing ones in becoming more environmentally friendly or practice of green manufacturing or production. Regardless, it has been stated that this reporting is considered not only ethical but for the benefit of all the stakeholders of the forms including the shareholders, employees, management, the government, customers, suppliers, and the general society. This is because it is assumed that the inability of firms to disclose their environmental exposures and activities, and the efforts of the organization to become more climate sustainable may discourage customers who are environmentally conscious to boycott the consumption of the products or services from the said firms. Also, the fact that a firm is considered to practice the green manufacturing process makes it sustainable, and as such it is

received positively by society. This acceptance is expected to rub off positively on the performance and value of the form over time (Mahmud, Ahammad, and Islam, 2013; Odum and Arinomor, 2023).

With the introduction of International Financial Reporting Standards S1 and S2 in Nigeria in the past couple of years, it has become imperative that firms be it oil and gas, pharmaceutical, and health, consumer goods companies who practice IFRS-compliant reporting to make to mandatorily make environmental or green accounting disclosures. Likewise, for the firms that are not yet fully IFRS-reporting compliant the pressure is mounting with each passing financial period. Through all these, it is understandable that in Nigeria and globally, achieving these green or environmental milestones, especially the reduction of emissions, investments into recycling plants, and even the changeover to renewable sources of energy are cost-centered. This increasingly strains the cash inflows and stresses the cash outflows of these firms, hence the likelihood it could add to their costs, especially in a challenging business environment like ours. With this in mind, it is not only necessary but paramount to find out if and how the reporting of these green practices by healthcare firms with possibly many carbon footprints, help in making them more valuable.

Statement of the Problem

There are many environmental concerns from manufacturing firms across Nigeria including healthcare companies. First, most of these firms are located in Lagos which boasts of high population, inadequate waste disposal, carbon dioxide (CO2) emission, and high level of pollution. A recent ban on the use of Styrofoam and single-use plastics is an indication of this (Aljazeera, 2024). Also, Lagos State has one of the worst Air Quality Index (AQI) putting at an unhealthy value of 160 as of 2021. This is about three and a half times above the global average (IQAir, 2021). These are the sum of un-green practices by the many manufacturing firms in the state including healthcare firms. Today, Nigeria is well known for gas flaring, a major conduit for the emission of greenhouse gases into the atmosphere.

Regardless of the level of pollution and these environmentally alarming situations, many of these firms including healthcare companies are not adequately sanctioned, their products and services are not boycotted by customers, and there are fewer reports on their commitment to achieving carbon zero in the nearest future unlike a greater proportion of their counterparts globally. These companies' operations are adequately audited and reported and their returns are submitted to the Nigerian Exchange Limited (NGX). Over the years, regardless of these levels of commitment, no healthcare firm has been reported delisted due to loss of value, and many of them declare significant dividends to their shareholders. Would it be these healthcare firms' value remain unaffected by their poor environmental disclosures or in cases where they are disclosed have there been any substance changes to the firm value of these firms This is the focus of this study, and that is to examine the effect of green accounting on the firm value of healthcare firms in Nigeria.

This study offers practical significance. These include the Nigerian Accounting Standards Board (NASB), the Federal government and its agencies, management and shareholders of

healthcare firms in Nigeria, environmental activists and civil society organizations, accounting experts, researchers, and students of accounting. To the Nigerian Accounting Standards Board (NASB), this study provides a possible framework that can be used in enforcing firms to adopt green accounting disclosures especially if its effect is found to be rewarding to the value of the firm. To the federal and state governments in Nigeria including their ministries departments and agencies (MDAs), this study would push them to push through legislations and policies that support firms to become more green in their operations if that is what it needs to become more valuable. This would appear a win-win solution for all stakeholders in all the industries in Nigeria since there would be increasing support for green accounting, and the value of the firms would perhaps rise over time to the delight of investors and shareholders.

To the management and shareholders of healthcare firms especially those that are yet to fully embrace green accounting, this study provides empirical evidence of the relationship between such noble practices and their EPS and market capitalization. This would further deepen green and environmental accounting practices in the healthcare industry in Nigeria. To environmental activists, non-governmental organizations (NGOs), community-based organizations (CBOs), and civil society organizations who are on the frontline for improved environmental and climate responsibility of firms in Nigeria, the findings in this could provide them with empirical evidence to support and push their campaign further. To accounting experts, researchers, and students of accounting who have an interest in environmental accounting, this study contributes to existing literature that would further increase the pieces of literature on this contemporary subject, and in the process could make them conduct more empirical inquiries towards expanding this frontier. This study focused on the effect of green accounting on the value of healthcare firms in Nigeria. The study covered the effect of green accounting of greenhouse emissions, and renewable sources of energy on the Earnings per Share (EPS) and market capitalization of selected publicly quoted healthcare firms in Nigeria. The study covered a period from 2010 to 2023.

Objectives of the Study

The general objective of this firm is to examine the effect of green accounting on the value of healthcare firms in Nigeria. The specific objectives of this study include the following:

1. To examine the effect of greenhouse gas emission accounting and renewable energy accounting on the Earnings per Share (EPS) of healthcare firms in Nigeria.
2. To investigate the effect of greenhouse gas emission accounting and renewable energy accounting sources on the market capitalization of healthcare firms in Nigeria.

Research Questions

The following questions guided this study:

1. What is the effect of greenhouse gas emission disclosures and renewable energy accounting on the Earnings per Share (EPS) of healthcare firms in Nigeria?
2. How does the effect of greenhouse gas emission accounting and renewable energy accounting affect the market capitalization of healthcare firms in Nigeria?

Research Hypotheses

The following null hypotheses were tested in this study:

HO1: There is no effect of greenhouse gas emission accounting and renewable energy accounting on the Earnings per Share (EPS) of healthcare firms in Nigeria is not significant.

HO2: There is no effect of greenhouse gas emission accounting and renewable energy accounting on the market capitalization of healthcare firms in Nigeria is not significant.

Conceptual Literature

Environmental Accounting

According to the International Federation of Accountants (IFAC) (2005), environmental accounting encapsulates the assessment and disclosure of environmental-related financial information in the context of financial accounting and reporting; assessment and use of environmentally-related physical and monetary information in the context of environmental management accounting (EMA); estimation of external environmental impact and cost, often referred to as Full Cost Accounting (FCA); accounting for stocks and flows of natural resources in both physical and monetary term, that is Natural Resource Accounting (NRA); aggregation and reporting of organization-level accounting, information, natural resource accounting information and other information for national accounting purposes; and consideration of environmental related physical and monetary information in the broader context of sustainability accounting. Accordingly, environmental accounting involves the collection, analysis, and assessment of environmental and financial performance data obtained from business management and financial accounting systems (UK Environmental Agency, 2006).

This makes environmental accounting an aspect of accounting that generates reports for both internal and external use, becoming in recent times the concern and focus of corporate bodies who desire or are mandated to utilize environmental information in making a management decision. Environmental accounting covers issues such as pollution, deforestation habitat for endangered and threatened species that affect everyone, especially in many developing countries (Kayode, 2011). With the emerging contemporary trend in accounting, companies are expected to prepare an annual report that shows both qualitative and quantitative information about their operations and performance to be presented to their shareholders and stakeholders. The information content requirement by stakeholders helps in disclosing information about organizational performance and reports on environmental accounting.

According to the Global Reporting Initiative (2013) several organizations globally currently produce sustainability reports. Accordingly, it is reported that in 2008 about 80 percent of the largest 250 companies worldwide issued sustainability reports, up from around 50 percent in 2005 (KPMG, 2009). Similarly, in another survey that covered 34 countries (Nigeria inclusive), 95 percent of the 250 largest global companies now report on their corporate responsibility activities (KPMG, 2012). Also, corporate responsibility reporting has gained ground within the Top 100 companies in each of the 34 countries (KPMG, 2012). This implies that environmental accounting is becoming an important part of the financial reporting

culture globally. Green accounting is a subset of sustainability reporting and environmental accounting.

Green Accounting

Green accounting, which is sometimes referred to as environmental accounting, resource accounting, or integrated economic and environmental accounting, refers to reports on the effect of the company's activities on the environment and also the impact of the environment on the business in financial and physical terms (Han, 2012). Also, green accounting measures, records, and discloses the effect of corporate environmental actions on its financial standing using a set of accounting systems (Kumar, Pranitha, and Kumar, 2017). As such, environmental accounting aims to enable companies to achieve sustainable development and pursue efficient and effective environmental conservation activities while maintaining a good relationship with the company's community. This process aids organizations in identifying the cost of engaging in environmental conservation activities, and the benefits gained from conservation activities provided in quantifiable means of measurement and supports the communication of the evaluation results carried out to the stakeholders (Akpan and Nkanta, 2023).

The objective of conducting green accounting is to increase the efficiency of environmental management by assessing environmental activities from the perspective of costs (environmental costs) and benefits or effects (economic benefits), as well as producing environmental protection effects (Akpan and Nkanta, 2023). Based on this, green accounting provides information about the extent to which an organization or company makes a positive or negative contribution to the quality of human life and the environment. Currently in Nigeria, green accounting is not a mandatory requirement for firms that are listed in the nation's stock market (Akpan and Nkanta, 2023). This could change in the future, especially with the introduction of IFRS S1 and S2 in financial reporting in Nigeria in 2023. In this study, green accounting was considered as greenhouse emission accounting and renewable energy accounting.

Greenhouse Emission Accounting

Greenhouse gas emission consists of all emissions that have significant adverse impacts on ecosystems, air quality, agriculture, and human and animal health. This includes greenhouse gas (GHG), ozone-depleting substances (ODS), nitrogen oxides (NOX), and sulfur oxides (SOX). The activities of companies that produce these gases are evidenced in the emission of carbon and other related compounds which produces a negative effect on the environment via greenhouse gas emission. When these are quantified in costs and reported by a firm, it is referred to as greenhouse gas emission accounting or disclosure. Arguments in existing pieces of literature suggest that the growth of economic activities and energy consumption is associated with increasing greenhouse gas emissions, largely due to the utilization of non-efficient energy methods (Ekubiat, 2020; Muhammad, 2019). Globally, an increase in greenhouse gas emissions portends danger for the environment and humanity via its negative implication on climate change, hence all organizations are expected to commit to steps to reducing their carbon footprints over time, with many targeting nets zero emissions in 2030, 2040 or even 2050.

Renewable Energy Accounting

Non-renewable energy sources are considered to emit tier I greenhouse gas emissions. This includes the use of turbine engines, dams, generators, and others which flood the atmosphere with vast volumes of carbon monoxide and other dangerous gases. When organizations invest in renewable energy sources that are considered environmentally friendly, it is expected to reduce their dependence on fossil fuels and the use of energy sources such as coal and others. Accounting for these in terms of economic and social costs in the financial and sustainability reports of organizations refers to renewable energy accounting. This is accounted for by a reduction in the use of generators and investments in solar, wind, biofuel, and biogas sources of energy for the running of the offices and production plants of the firms.

Firm Value

Firm value describes the assets a firm owns. This in many cases in financial management represents the prosperity or wealth of the business owners. Thus, it is considered an important responsibility of the management to find ways to maximize the firm value in the long run. A high firm value is an indication that the firm is wealthy and therefore the shareholders‟ wealth is effectively and efficiently utilized. This firm value indicates the success level of the shareholders and investors. By this, the performance of companies is shown through the firm value. Again, investors use firm value to access a firm, especially when an investment is imminent. This is represented through the stock price of the firm. Sometimes, these investors only scrutinize the Earnings per Share (EPS) of the firm. While stock price is related to the market capitalization of the firm, the EPS is used in weighing up the earning power of the shareholders through dividends. Accordingly, there is a likelihood that the increase in stock price will gain high firm value (Ftouhi, Ayed, and Zemzem, 2010). This makes this study focus on Earning per Share (EPS) and market capitalization as the indicators of firm value in this study.

Earnings Per Share (Eps)

This is derived from the ratio of the net profit after tax of the firm to the number of outstanding common or equity shares of the firm. It is known that the higher the EPS of the firm the more it is likely that the firm value is appreciating (Adeniran and Alade, 2013). This firm value indicator is often associated with environmental accounting in organizations. Accordingly, in a study to ascertain if there is any significant relationship between environmental accounting disclosure and financial performance in Nigeria using earnings per share (EPS) as a proxy for performance, researchers reported through their result that there is a significant negative relationship between environmental accounting disclosures and earnings per share. (Adeniran and Alade, 2013). While this finding may be considered acceptable, there are also studies where EPS failed to relate negatively to environmental accounting (Akpan and Nkanta, 2023).

Market Capitalization

The share price of a firm is the value attached to a unit of a share which can be nominal or market value. It is on this share price movement that the investors expect their returns in the form of dividends representing the proportion of residual income attributable to investors as returns on their investment. When this share price is multiplied by the number of outstanding

common shares of the company, the market capitalization of the company is derived. Market capitalization is considered an indicator of firm value and has been shown to have an increasing capacity to explain the shareholder's wealth and the worth of the business. However, share price remains an important part of this value. In line with this, studies have shown that dividend payment influences the value of firms (Habumugisha and Mulyungi, 2018; Akinkoye and Akinadewo, 2018). Theoretically, it has been posited that firms would make higher and more objective environmental or green accounting and social disclosures, to benefit from higher share prices despite the associated proprietary costs (Verrecchia, 2001).

Theoretical Review

Stakeholders Theory

The main theory on which this study is based is the stakeholder theory. It provides a proposition that supports the possibility that green accounting can be a tool that can be used to influence the firm value of firms. This theory is credited to Freeman (1984), but the groundwork for its emergence was reported by Ansoff (1965). Accordingly, this theory states that the company's primary strategic objective is to achieve the capability to balance the different needs of diverse stakeholders in the company (Ansoff, 1965). This is an indication that the company's management would always seek avenues that would increase the value of the firm. However, Freeman (1984) succeeded in integrating the theory into the corporate social responsibility model and business policy model. Since then, the stakeholder theory proposed that groups of stakeholders can develop and approve the company's strategic decisions concerning business policies which is considered value-enriching. These stakeholders' behaviour can also limit the company's strategy, which is developed by managers to match appropriate resources with its surroundings.

This basic proposition of the stakeholder theory suggests that the firm's success is dependent upon the successful management of all the relationships that a firm has with its stakeholders (Freeman 1994). This is an indication that only policies, information, and activities that are considered value-adding are usually approved by the stakeholders of the company. Green accounting is increasingly becoming important to be overlooked by stakeholders and managers of healthcare firms in Nigeria. If this is the case, then there is the possibility that there are actionable strategies that are aimed at ensuring that these firms are environmentally responsible. Mirroring through this may imply that this would be because green accounting can contribute to the firm value. This is the focus of this study.

Agency Theory

Agency theory was developed by Jensen and Meckling in 1976. This theory supported the existence of a contract under which one or more persons (the principals) engage another person (the agent) to perform some services on their behalf which involves delegating some decision-making authority to the agent. However, agency problems may arise due to the conflict of interests within the management-investors or principal-agent relationship. Based on this, it can be stated that since investors invested their funds into a firm and do not in many cases participate in active management of the firm, an incentive is created by the managers to perform self-centered decisions that "misuse" investors' invested capital. This could be related

to important decisions such as improper or inadequate green accounting or disclosures of the carbon footprint of the firms. This is an indication that this could impact the firm value over time. However, this could work well for the company when adequate disclosures are reported publicly on the amount or volume of greenhouse gases emitted, in line with the interest of shareholders, investors, and other stakeholders (Healy and Palepu 2001). This is an indication that such public reporting of environmental matters not only would reduce the agency problems that may arise but may influence the firm value over time. This possibility is enunciated in a cardinal principal-agent relationship defined by agency theory. This makes this theory relevant to this study.

Empirical Review

Odum and Arinomor (2023) examined the effect of green accounting cost on return on equity, shareholders' funds, earnings per share, profit after tax, and net profit margin of selected oil and gas companies. The study covered thirteen (13) years from 2020 to 2022. The researchers employed an ex-post facto research design with the aid of the Panel Ordinary Least Square (POLS) and Granger Causality techniques to analyze the data. The result of the Granger Causality test revealed that green accounting cost has no significant effect on the return on equity, shareholders' funds, earnings per share, and net profit margin of oil and gas companies. Given the findings, the researchers suggested that the management of oil and gas companies in Nigeria should develop a well-articulated environmental costing system to guarantee a conflict-free corporate atmosphere for improved return on equity.

Akpan and Nkanta (2023) investigated the effect of green accounting practices on shareholders' value in Nigeria by drawing samples from listed consumer goods firms in the Nigerian Exchange Group. The study's chronological scope was from 2012 to 2021. Ex post facto design was used, secondary data were employed and least square dummy variable regression was used in analyzing the data. A sample size of 20 companies was determined using the Taro Yamane formula and these companies were selected using the simple random sampling technique. Green accounting was indicated in the study by biodiversity disclosure, emission disclosure, waste disclosure, water and effluents disclosure, and compliance to environmental laws & regulations disclosure while shareholders' value proxied by shareholders' value added (SHVA). The result showed that biodiversity disclosure and compliance to environmental laws disclosures have a positive significant effect on shareholders' value added; water & effluents disclosures have a positive significant effect on shareholders' value added of listed consumer goods firms in Nigeria during the period under study. The researchers concluded that green accounting practices have a significant effect on shareholders' value added to manufacturing companies in Nigeria. Therefore, the researchers recommended that green accounting practices should be made mandatory for all companies because standard green accounting disclosures are signals to all stakeholders that the companies are 'green' and eco-friendly companies, and this, in turn, boosts shareholders' value.

Chude, Chude, and Egbunike (2022) investigated the effect of green accounting practices on the returns on assets and returns on equity of consumer goods manufacturing firms in Nigeria.

The stakeholder theory was the theoretical underpinning of the research. The study adopted an ex post facto research design, and the final sample comprised twenty-one consumer goods companies quoted on the Nigerian Stock Exchange. The researchers relied on secondary sources of data from the annual financial reports of these companies from 2011 to 2017. The data were analyzed using least squares regression. The findings of the study revealed that green accounting practices have a positive and significant relationship with returns on assets but a negative effect on returns on equity that is not significant. The researchers recommended that green accounting practices should be part of the corporate practices of manufacturing firms because they improve return on assets and improve stakeholder engagement.

Okoli, Onuora, and Emka-Nwokeji (2021) examined the impact of green accounting on firm performance in Nigeria. Tobin Q was used to measure the firm value. The study selected 72 manufacturing firms listed on the Nigerian Stock Exchange that disclosed green accounting information in line with GRI-4. Ex-post facto research design was used and secondary data were collected from annual reports of sampled firms from 2012- 2019. The data were analyzed with descriptive statistics and correlation analysis while pooled ordinary least squares regression was employed to test formulated hypotheses. From the analysis, it was found that material and energy disclosure have positive and significant effects on firm performance. Based on these findings, the researchers recommended that companies should develop policies concerning materials used to produce and Package the Company's primary products and services during the reporting period and firms should also make their operations more sustainable by reporting on their energy consumption and energy efficiency policy being aware of it's in becoming accountable and responsible

Budiono and Dura (2021) examined the application of green accounting and its impact on company profitability. In this study, green accounting was measured by the Company Performance Rating Program in Environmental Management (PROPER) and profitability was measured with the return on asset (ROA). The research method used was quantitative research design. The sample size of 24 out of the population of 100 Kompas Index companies was selected purposely. Data were analyzed using simple regression. The results of this study indicated that the application of green accounting has a significant effect on the profitability of the Kompas100 Index Company.

Amosun and Akintoye (2021) examined the impact of green accounting on the financial performance of companies in Nigeria. This study was based on the data extracted from the annual reports of two natural resources companies listed on the Nigerian exchange group for five years (2015- 2019). The data was analyzed using ordinary least squares (OLS) regression. The findings in the study showed that environmental accounting (environmental conservation cost) has a significant effect on the financial performance of natural resources companies. The authors concluded that proper reporting of green accounting could affect the financial performance of companies.

Benson, Asuquo, Inyang, and Adesola (2021) examined the effect of green accounting on the financial performance of oil and gas companies from 2010-2020. A quantitative technique was

adopted, and an ex post facto research design was employed for the study. Data were obtained from annual reports and accounts of the companies for the periods 2010 to 2020. The results showed that environmental cost accounting has a significant effect on the financial performance of oil and gas companies. Also, the results from the analysis showed that green management accounting has a significant effect on the financial performance of oil and gas firms. Therefore, the researchers recommended that the management of oil and gas companies in Nigeria should pay particular attention to environmental cost accounting to enhance the firm's operating environment and the financial performance of the companies.

Sumiati, Susanti, Maulana, Indrawati, Puspitasari, and Indriani (2021) investigated empirical evidence about the effect of green accounting and environmental performance on profitability, either separately or concurrently. The population in this study consisted of 107 companies listed on the Indonesia Stock Exchange in the mining sector and the consumption goods industry sector. Purposive sampling with criteria sets to produce 77 observational data was used to sample as much as possible. Based on the findings, the researchers concluded that, while the use of green accounting is voluntary, its impact on profitability is greater than that on environmental performance.

Lusiana, Haat, Saputra, and Muhammad (2021) examined the relationship between green accounting, corporate social responsibility (CSR), return on asset, return on equity, and firm value. A total of 30 peer-reviewed articles were reviewed and analyzed, resulting in a finding in the previous article's literature. The researchers found that green accounting and CSR significantly affect financial performance, hence impacting firm value. The researchers concluded that the application of green accounting affects increasing profits. According to researchers, a company with a good CSR will certainly create a positive image and reputation among investors.

Eze (2021) examined green accounting disclosure and its effect on the financial performance of listed manufacturing firms in Nigeria. In particular, the study examined the effect of green accounting disclosure on ROA, ROE, and share price of manufacturing firms in Nigeria. The ex-post facto research design was employed. Data was collected from the annual reports of forty out of the sixty-six manufacturing companies listed in the Nigerian Stock Exchange as of 31st December 2019 for the period spanning 2010 – 2019. The descriptive statistics and the panel regression methods were employed for the data analysis. The Arellano and Bond (1991) GMM estimator which controls for potential endogeneity problems was employed to ensure the robustness of the parameter. The study findings revealed that green accounting disclosure had a positive significant effect on ROA and ROE. However, a negative effect was found to exist between green accounting disclosure and the share price of manufacturing firms in Nigeria. The researchers recommended that manufacturing firms be encouraged to increase the extent of their green accounting activities for ease of assessment by stakeholders for investment decision-making.

Ogoun and Ekpulu (2020) investigated how environmental reporting by firms operating within the manufacturing sector in Nigeria affects their operational performance. The

researchers employed the panel research design and the Hausman test to select the appropriate model for the ten-year study, covering 2009 to 2018. The result showed the existence of a positive effect between environmental reporting and firms' operational or financial performance. Solomon (2020) carried out a literature review on the ecological disclosure and financial performance of listed oil and gas companies in Nigeria. Performance was proxied by return on asset, return on equity, earnings per share, cash flow, and profit margin. The findings revealed a mixed outcome of a negative and positive relationship between the variables in the study.

Yang and Yi Li (2020) carried out a study on the impact of environmental information disclosure on the firm value of listed manufacturing firms in China between 2006 and 2016. The dataset was analyzed using the difference–in–differences (DID) model and the propensity score matching method (PSM) and the result showed that the Environmental Information Disclosure Measure for Trial Implementation (EIDMT) exerts a significant impact on the listed manufacturing firms' value.

Ozoanigbo and Ofor (2019) examined the effect of green cost accounting on the financial performance of selected oil and gas firms listed on the Nigeria Stock Exchange. The study used waste management cost, litigation and fine cost, gas flaring penalty, and pollution control cost as a proxy for Independent variables, while net profit margin was used as a proxy for the dependent variable. A secondary source of data was employed while the research design was based on ex-post facto design. The data was collected from ten (10) listed oil and gas firms for a period of five (5) years, between 2012 to 2016. The data collected were analyzed using descriptive statistics, correlation, and multiple regression analysis. The result showed that waste management cost and gas flaring penalty cost have positive and significant effects on the Financial Performance of selected oil and gas firms at 1% and 5% significant levels respectively. The researchers recommended that oil and gas companies should invest heavily in Waste Management and Gas Flaring reduction programmes as both have statistically significant effects on their profit margin.

Oyedokun, Elvis, and Abiola (2019) examined the effect of environmental accounting disclosure on the firm value of listed industrial goods companies in Nigeria from 2007- 2016. The ex-post facto research design was adopted in this study while the data were gathered through the individual sample company's annual financial statement. Multiple regression was used to analyze the effect of environmental accounting disclosure on firm value. Environmental accounting disclosure was measured by nonfinancial indicators, financial indicators, and performance indicators while the firm value is measured by Tobin's Q. From the result, it was revealed that non-financial indicators have a positive significant effect on firm value while performance indicators have a negative significant effect on firm value and the financial indicator has no significant effect on firm value of industrial goods companies in Nigeria. The researchers suggested that sanctions be put in place to encourage disclosures most especially non-financial indicators because it has a direct influence on the firm value of the industrial goods companies in Nigeria.

Nnamani, Onyekwelu, and Ugwu (2017) used the brewery sector to conduct a study on the effect of sustainability accounting on the financial performance of listed manufacturing firms in Nigeria. Secondary data for the study were obtained from the annual reports and accounts of three brewery firms quoted on the Nigerian Stock Exchange for the total assets, return on equity, total personnel cost to turnover, and return on assets. The data set obtained was analyzed using the ordinary least square estimation technique. The result showed that green accounting disclosure or environmental disclosure has a positive and significant effect on the firm's financial performance.

Methodology

Research Design

The research design for this study is descriptive. This research design is considered appropriate because it supports the application and use of already existing data collected from reliable and verifiable sources in the examination of how green accounting affects the value of healthcare firms in Nigeria. This design is considered relevant since it supports the use of these data to provide answers to the earlier stated research questions, testing of research hypotheses, and the attainment of the objectives of this study. Furthermore, the research design also supports the use of quantitative methods of analysis which are acceptable in this study.

Population of the Study

The population of this study was six (6) listed healthcare firms in Nigeria as reported by Nigerian Exchange Limited (NGX) as of 25th March 2024. These six (6) listed healthcare firms in Nigeria are known to have their equities traded on the floor of the Nigerian Exchange Limited (NGX) from 2010 to March 2024. Also, these six (6) listed healthcare firms in Nigeria are known to publish their annual reports in these years. Thus, the population of this study was the six (6) listed healthcare firms in Nigeria. These banks are presented in Table 1.

Table 1: Population of the Study

S/N	Listed Healthcare Firms
1	Ekocorp Plc
2	Fidson Healthcare Plc
3	May and Baker Nigeria Plc.
4	Morison Industries Plc
5	Neimeth International Pharmaceuticals Plc
6	Pharma-Deko Plc

Source: Nigeria Stock Exchange Limited (NGX) (2024)

Sample and Sampling Technique

The sample of this study comprised all six (6) healthcare firms listed in Nigerian Exchange Limited (NGX). The sampling technique that was adopted in the selection of all units in the population of the study, is the purposive sampling technique. This sampling technique, a non-probability sampling technique, provides the units of the population that the researcher deems appropriate for the study. Hence, the sample of this study was selected because it provides adequate data on the subject matter of the study, allowing the researcher to gather all the information needed concerning green accounting and the firm value of the firms.

Method of Data Collection

Data on the variables in the study were collected directly from the annual reports and final accounts of all six (6) listed healthcare firms in Nigeria in Nigeria. These financial reports are published annually and were downloaded from the various websites of each of these banks, or the Nigerian Exchange Limited (NGX) from the year 2010 to 2023. Data on These data include the Earnings per Share, Number of outstanding common shares, costs associated with greenhouse gas emissions, and investments in renewable energy by the firm. The data on stock price was collected from the market reports provided by the Nigerian Exchange Limited (NGX) over the years. The data on market capitalization was computed using the stock price of each of the six listed healthcare firms and the number of common shares outstanding.

Model Specification

The functional relationship between the independent variables and dependent variables will be specified in a multiple linear regression for each of the hypotheses. The use of a linear regression equation is to show the nature of the relationship between the independent and dependent variables in this study. Multiple regression equations will be used in depicting this relationship for each of the hypotheses earlier stated in this study.

The multiple linear regression equation is expressed as follows in equation 1, below:

$$y_{ij} = a_0 + b_1X_{1ij} + b_2X_{2ij} + b_3X_{3ij} + b_4X_{4ij} + b_5X_{5ij} + \mu_1 \quad \text{Equation 1}$$

Where:

y is the dependent variable

X_1, X_2, X_3, X_4, X_5 are the independent variables

α_0 is the regression constant

b_1, b_2, b_3, b_4, b_5 are the regression coefficients of the independent variables

μ_1 is the error term

i is the number of listed banks

j is the period or year covered

However, for the purpose of the research hypotheses the functional form of the regression equations is stated as follows:

Hypothesis One

$$EPS = f(GHC, REI) \quad \text{Equation 2}$$

The functional relationship in Equation 2 is specified in a multiple regression equation form as follows:

$$EPS_{ij} = a_0 + b_1GHC_{ij} + b_2REI_{ij} + \mu_1 \quad \text{Equation 3}$$

Hypothesis Two

$$MCP = f(GHC, REI) \quad \text{Equation 4}$$

The functional relationship in Equation 4 is specified in a multiple regression equation form as follows:

$$MCP_{ij} = a_0 + b_1GHC_{ij} + b_2REI_{ij} + \mu_1 \quad \text{Equation 5}$$

Where:
EPS is Earnings Per Share of the Listed Healthcare firms
MCP is Market Capitalization of the Listed Healthcare firms
GHC is Cost associated with Greenhouse gas emissions
REI is the investments in renewable Energy Sources
i is the number of listed banks
j is the period or year covered

Data Analysis Technique
Ordinary Least Square (OLS) panel or cross-sectional multiple linear regression technique was used in the analysis of the data collected for this study. This provides the results that would help in the evaluation of the effect of green accounting on firm value of healthcare firms in Nigeria. Further tools of analysis used are econometric tools, such as Augmented Dickey-Fuller, ADF, unit roots tests for the determination of the stationarity properties of the variables, and cointegration analysis for the determination of the existence of a long-run equilibrium relationship between the variables. In addition to these methods of analysis, descriptive and inferential statistics techniques were also used in the analysis of the data collected in this study. Inferences will be drawn using the t-statistic and F-statistic at a 5% level of significance throughout the study. The decision rule for using these tools will be as follows:

1. An independent variable will be said to be significant if the computed t-statistic is greater than the critical value or the tabulated t-statistic at a 5% level of significance and a degree of freedom given by n-1; where n is the number of periods covered. Furthermore, the independent variable will be said to be significant if the probability value is less than 0.05.
2. A research hypothesis will be said to be significant, and the null hypothesis rejected if the computed F-statistic is greater than the critical value or the tabulated F-statistic at a 5% level of significance and a degree of freedom given by n-1; where n is the number of periods covered. Also, the hypothesis will be significant if the probability value is less than 5 %(0.05, that is $P<0.05$).

Data Presentation
The data for this study consisted of Earnings per Share (EPS), Market Capitalization (MCP), Costs Associated with Greenhouse Gas Emission (GHC) and Investments in Renewable Energy (REI) of Listed Healthcare Companies in Nigeria from 2010-2023. This data is presented in Table 4.1 in the Appendix.

Descriptive Analysis of Data
The data provided in Table 1 (see Appendix) was analyzed using the descriptive analysis technique. The descriptive analysis result of the variables is presented in Table 2.

Table 2: Results of Descriptive Analysis of Data in the Study

Parameters	EPS	MCP	GHC	REI
Mean	0.301429	5.282274	2.849286	4.572738
Median	0.21	2.54	2.51	3.685
Maximum	1.43	35.6	6.7	15.3
Minimum	-1.5	0.13	0.05	0.25
Std. Dev.	0.465018	7.211046	1.93943	3.596112
Skewness	0.06837	2.332009	0.552709	0.858564
Kurtosis	5.90934	8.374424	2.389764	2.820699
Jarque-Bera	29.69036	177.2313	5.580172	10.43238
Probability	0	0	0.061416	0.005428
Sum	25.32	443.711	239.34	384.11
Sum Sq. Dev.	17.94803	4315.932	312.1954	1073.358
Observations	84	84	84	84

Source: Researcher's Computation (2024)

Table 2 shows that the mean values obtained for the dependent and independent variables in this study were ₦0.30, ₦5.28 billion, ₦2.85 million, and ₦4.57 million respectively for Earnings per Share (EPS), Market Capitalization (MCP), Costs associated with Greenhouse Gas Emissions (GHC) and Investments in Renewable Energy (REI). This indicates that on average, the listed healthcare companies have invested more in renewable energy than they have in cutting down greenhouse gas emissions (4.57>2.84). Also, concerning firm value, the listed healthcare companies in Nigeria on average of market capitalization (MCP) have a fair level of valuation. However, the changes in the market capitalization from 2010 to 2023 showed that there have been gains in firm value given that the minimum recorded was ₦0.13 billion and the maximum recorded was ₦35.6 billion across the six (6) listed healthcare companies in Nigeria.

On the level of dispersion in the distribution of the data in the variables the obtained standard deviation values of 0.465, 7.211, 1.939, and 3.596 for EPS, MCP. GHC and REI respectively, indicate varying levels of variability or volatility in the distribution of the data of these variables. It appears that the distribution of data for the variables MCP and REI were much dispersed when compared to those of the variables EPS and GHC. Furthermore, on the degree of asymmetry of the distribution of data, all the variables returned positive skewness, based on the skewness values of 0.068, 2.332, 0.553, and 0.858 for EPS, and MCP. GHC and REI respectively. This implies that the degree of disorderliness is higher in the data for the variables MCP and REI. This affirms the earlier position of higher dispersion when compared to the variables EPS and GHC.

On the shape of the distribution, the kurtosis values of 5.909, 8.374, 2.389, and 2.821 were obtained for EPS and MPC. GHC and REI respectively. Using the value of 3.0 as the benchmark, it appears none of the variables has a distribution that is mesokurtic in shape. However, for both EPS and MCP with kurtosis values greater than 3.0, their shapes can be judged leptokurtic, an indication of the peakedness of their distribution. This is an indication of the presence of outliers in the data. For the variables, GHC and REI with kurtosis values less than 3.0, their shapes are platykurtic, an indication that these are flatter and may have more tails in the distribution. Finally, on the normality of the data, the Jarque-Bera probability values obtained for EPS, MCP, GHC, and REI were 0.0, 0.0, 0.06, and 0.005 respectively. This indicates that all the data for the variables can be judged as normal given that the obtained probability values were within the acceptable 0.05 region.

Test of Hypotheses

Each of the research hypotheses was tested based on the obtained multiple regression results in the study. The multiple regression results in the study are presented in the Appendix. However, for each of the hypotheses, the results are summarized accordingly.

Hypothesis Number One

This hypothesis was stated as, "The effect of greenhouse gas emission accounting and renewable energy accounting on the Earnings Per Share (EPS) of healthcare firms in Nigeria is not significant". The data and regression results that relate to this hypothesis are presented in the Appendix. The summary of the multiple regression results is presented in Table 3

Table 3: Summary of Multiple Regression Result for Hypothesis One
Dependent Variable = EPS

Variable	Coefficient	Computed t-statistic	Probability	Critical t -statistic value @5% ($t_{0.05,11}$)
C	0.066	0.361	0.7192	2.201
GHC	0.040	0.773	0.4422	2.201
REI	0.026	1.301	0.1979	2.201
R^2 = 0.6039 Adj. R^2 = 0.4782 F-stat = 4.8032 Prob. = 0.000001				

Source: Researcher's Computation (2024)

In the result, the firm value as indicated by Earnings per Share (EPS) will remain positive at an average of 0.066 units if all the independent variables are held constant, that is GHC=REI =0. This implies that the Earnings per Share (EPS) of the listed Healthcare Companies will not decline even if there are no changes made to areas of green accounting by the firms. Similarly, a unit change in the costs of greenhouse gas emission (GHC) will lead to an increase of 0.040 units in the Earnings per Share (EPS) of the listed healthcare companies in Nigeria. This is an

indication of a positive effect of GHC on EPS. However, this positive effect of GHC on EPS is not statistically significant given that the computed t-statistic value of 0.7733 is less than the critical t-statistic value of 2.201 (t0.05,11) at a 5% significance level. Also, the obtained probability value of 0.4422 is greater than 0.05. Likewise, a unit increase in the level of investments in renewable energy (REI) will lead to an increase of 0.026 units in EPS of the listed healthcare companies in Nigeria. Also, this indicates the existence of a positive effect of REI on EPS.

However, this positive effect of REI on EPS is not statistically significant given that the computed t-statistic value of 1.3012 is less than the critical t-statistic value of 2.201 (t0.05,11) at a 5% significance level. Also, the obtained probability value of 0.1979 is greater than 0.05. In all, this indicates the existence of a positive relationship between green accounting and the earnings per share (EPS) of listed healthcare companies in Nigeria. The coefficient of determination (R2) value of 0.6039, indicates that 60.39% of the variations in the dependent variable, EPS have been explained by the independent variables, that is GHC and REI. This indicates a moderate level of predictive power of these independent variables to explain the changes in the EPS (firm value) of listed healthcare firms in Nigeria. The remaining 39.61% of the variations in the dependent variable cannot be explained by the independent variables, hence these can be attributed to other variables not captured by the model. This is given as the error term.

Finally, with the critical F-statistic value obtained as 3.98 (F2,11), at a 5% significance level, the model representing the hypothesis can be said to have goodness-of-fit given that the obtained computed F-statistic is 4.83 and the probability value is 0.000001. Since the computed F-statistic value of 4.83 is greater than 3.98, the critical F-statistic value, the null hypothesis will fail to hold, hence it is rejected. Based on this, the alternative hypothesis is accepted. This indicates that the effect of greenhouse gas emission accounting and renewable energy accounting on the Earnings per Share (EPS) of healthcare firms in Nigeria is significant.

Hypothesis Number Two

This hypothesis was stated as, "The effect of greenhouse gas emission accounting and renewable energy accounting on the Market Capitalization of healthcare firms in Nigeria is not significant". The data and regression results that relate to this hypothesis are presented in the Appendix. The summary of the multiple regression results is presented in Table 4

Table 4: Summary of Multiple Regression Result for Hypothesis Two
Dependent Variable = MCP

Variable	Coefficient	Computed t-statistic	Probability	Critical t-statistic value
C	3.279	2.0236	0.0473	2.201
GHC	0.209	0.4558	0.6501	2.201
REI	0.308	1.7072	0.0927	2.201
R^2 = 0.8709 Adj. R^2 = 0.8299 F-stat = 21.257 Prob. = 0.000				

Source: Researcher's Computation (2024)

In the result, the firm value as indicated by Market Capitalization (MCP) will remain positive at an average of 3.2799 units if all the independent variables are held constant, that is GHC=REI =0. This implies that the Market Capitalization (MCP) of the listed Healthcare Companies will not decrease even if there are no changes made to areas of green accounting by the firms. Similarly, a unit change in the costs of greenhouse gas emission (GHC) will lead to an increase of 0.2099 units in the Market Capitalization (MCP) of the listed healthcare companies in Nigeria. This is an indication of the positive effect of GHC on MCP. However, this positive effect of GHC on MCP is not statistically significant given that the computed t-statistic value of 0.4558 is less than the critical t-statistic value of 2.201 (t0.05,11) at a 5% significance level. Also, the obtained probability value of 0.6501 is greater than 0.05.

Likewise, a unit increase in the level of investments in renewable energy (REI) will lead to an increase of 0.308 units in the MCP of the listed healthcare companies in Nigeria. Also, this indicates the existence of a positive effect of REI on MCP. However, this positive effect of REI on MCP is not statistically significant given that the computed t-statistic value of 1.7072 is less than the critical t-statistic value of 2.201 (t0.05,11) at a 5% significance level. Also, the obtained probability value of 0.0927 is greater than 0.05. In all, this indicates the existence of a positive effect of green accounting on the Market Capitalization (MCP) of listed healthcare companies in Nigeria.

The coefficient of determination (R2) value of 0.8709, indicates that 87.09% of the variations in the dependent variable, MCP have been explained by the independent variables, that is GHC and REI. This indicates a moderate level of predictive power of these independent variables to explain the changes in the MCP (firm value) of listed healthcare firms in Nigeria. The remaining 22.91% of the variations in the dependent variable cannot be explained by the independent variables, hence these can be attributed to other variables not captured by the model. This is given as the error term. Finally, with the critical F-statistic value obtained as 3.98 (F2,11), at a 5% significance level, the model representing the hypothesis can be said to have goodness-of-fit given that the obtained computed F-statistic is 21.257 and the probability

value is 0.000000. Since the computed F-statistic value of 21.257 is greater than 3.98, the critical F-statistic value, the null hypothesis will fail to hold, hence it is rejected. Based on this, the alternative hypothesis is accepted. This indicates that the effect of greenhouse gas emission accounting and renewable energy accounting on the Market Capitalization (MCP) of healthcare firms in Nigeria is significant.

Discussion of Findings

Firstly, there is a positive effect cost associated with greenhouse gas emissions, investments in renewable energy, and earnings per share (EPS) of listed healthcare firms in Nigeria. This indicates that an increase in the level of costs associated with the reduction of greenhouse gas emissions and an increased level of investments in renewable energy will lead to an increase in the Earnings per share of the listed healthcare firms in Nigeria. Conversely, a decrease in the level of costs associated with the reduction of greenhouse gas emissions and a decreased level of investments in renewable energy will lead to decline. In the Earnings per share of the listed healthcare firms in Nigeria. This implies the existence of a positive effect of green accounting on Earnings per Share of listed healthcare firms in Nigeria.

However, this positive effect of green accounting on Earnings per Share of listed healthcare firms in Nigeria was shown not to be statistically significant. This finding aligns with the findings of Odum and Arinomor (2023) and Akpan and Nkanta (2023), though Akpan and Nkanta (2023) reported a positive and significant effect of green accounting variables on the firm value of oil and gas firms in Nigeria. Perhaps, the non-statistically significant relationship effect in listed healthcare companies in Nigeria could be because these companies have not been in the spotlight of environmental supervisors and activities when compared to oil and gas companies. However, it has been shown that it can exert a positive effect on their firm value.

Secondly, there is a positive effect of the cost associated with greenhouse gas emissions, investments in renewable energy, and market capitalization (MCP) of listed healthcare firms in Nigeria. This indicates that an increase in the level of costs associated with the reduction of greenhouse gas emissions and an increased level of investments in renewable energy will lead to an increase in the market capitalization of the listed healthcare firms in Nigeria. Conversely, a decrease in the level of costs associated with the reduction of greenhouse gas emissions and a decreased level of investments in renewable energy will lead to decline. In the market capitalization of the listed healthcare firms in Nigeria. This implies the existence of a positive effect of green accounting and market capitalization of listed healthcare firms in Nigeria. This finding is in line with the findings of Odum and Arinomor (2023), Amosun and Akintoye (2021), and Akpan and Nkanta (2023), though Akpan and Nkanta (2023) and Lusiana et al (2021). This implies the existence of a positive relationship between green accounting variables and the firm value of healthcare companies in Nigeria.

Summary of Findings

This research was on the examination of the effect of green accounting on the firm value of listed healthcare companies in Nigeria. Data on six (6) healthcare firms listed on the Nigerian Exchange Limited (NGX) were used in the study with variables cost associated with the

reduction of greenhouse gas emissions and investments in renewable energy used as proxies for green accounting, and Earnings per Share (EPS), and market capitalization used as indicators of firm value. The data was collected from the annual reports and financial statements of the listed healthcare firms in Nigeria. The data covered 14 years (2010-2023). The data was analyzed using descriptive and inferential statistical techniques. The findings from the analysis include:

i. Costs associated with greenhouse gas emissions have a positive effect on earnings per share (EPS) and market capitalization of healthcare firms in Nigeria.
ii. Investments in renewable energy have a positive effect on earnings per share (EPS) and market capitalization of healthcare firms in Nigeria.

Conclusion

Regardless of the level of the emergence of green accounting amongst Nigerian companies, its place in contemporary accounting practices has been cemented. Hence, there is a need for all firms operating in Nigeria to move in that direction. This includes healthcare firms, who may be considered outside the spotlight of environmental concerns but whose manufacturing and supply chain activities are nonetheless adding to the environmental degradation through greenhouse gas emissions, pollution, use of non-renewable energy sources, and others. However, proper accounting for these is needed in line with the green accounting provisions which are supported by the recent introduction of the IFRS S1 and S2 standards in Nigeria. This indicates that it will be proper and ethical for all companies regardless of their industry to religiously account for their green activities in line with what all the stakeholders require as proposed in the Stakeholders' theory.

Empirically, it was shown that reporting these or accounting for these by disclosing what it is costing the company to reduce greenhouse emission and their investments in renewable energy has a positive effect on the earnings per share (EPS) and market capitalization of healthcare firms listed on the Nigerian Exchange Limited (NGX). This implies that green accounting has a positive effect on the earnings per share (EPS) and market capitalization of healthcare firms in Nigeria. Based on this, it is stated that green accounting has a positive effect on the value of healthcare firms in Nigeria.

Recommendations

The following recommendations are made in line with the findings of this study.

i. There is a need for healthcare firms to up and sustain their green accounting practices in Nigeria. This will enhance their firm value positively.
ii. All efforts to enforce green accounting by the Nigerian Accounting Standards Board (NASB) among healthcare firms in Nigeria should also be sustained since it will be beneficial to the firm value of the firms.

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Appendix

Table 1: Data on Earnings per Share (EPS), Market Capitalization (MCP), Costs Associated with Greenhouse Emission (GHC) and Investments in Renewable Energy (REI) in Listed Healthcare Companies in Nigeria (2010-2023)

YEAR	LISTED HEALTHCARE COMPANY	EPS (₦)	MCP (₦' billion)	GHC (₦'million)	REI (₦'million)
2010	Ekocorp Plc	0.11	1.650	2.35	1.63
2011		0.12	1.830	2.50	1.72
2012		0.12	1.900	2.00	1.55
2013		0.14	1.910	2.80	1.80
2014		0.20	1.950	2.90	1.25
2015		0.23	1.980	2.50	2.18
2016		0.31	2.010	2.60	2.57
2017		0.45	2.230	3.50	2.03
2018		0.35	2.410	3.60	1.86
2019		0.16	2.550	3.40	1.95
2020		0.18	2.530	3.80	2.17
2021		0.18	2.630	4.20	2.88
2022		0.25	2.750	5.10	3.15
2023		0.38	2.990	5.80	1.28
2010	Fidson Healthcare Plc	0.27	12.200	1.75	2.75
2011		0.43	12.500	1.22	3.82
2012		0.51	12.600	1.35	3.55
2013		0.62	12.800	1.72	3.91
2014		1.12	13.500	1.73	4.05
2015		1.16	13.600	1.77	5.13
2016		1.15	13.800	1.85	4.03
2017		1.21	14.500	2.10	4.83
2018		1.28	20.250	2.50	4.49
2019		1.29	23.900	2.67	5.15
2020		1.35	24.600	2.85	5.24
2021		1.37	25.700	2.33	6.30
2022		1.33	31.600	2.88	6.50
2023		1.43	35.600	2.91	7.10
2010	May and Baker Nigeria Plc	0.10	2.290	3.15	6.30
2011		0.10	2.350	2.93	4.50
2012		0.11	2.280	2.55	4.80
2013		0.12	3.110	2.72	7.10
2014		0.11	4.050	2.81	7.30
2015		0.11	4.180	3.10	8.40
2016		0.17	4.220	3.11	5.50
2017		0.21	4.330	4.15	6.50
2018		0.29	5.160	6.32	8.80

2019		0.30	5.470	6.51	4.70
2020		0.21	5.880	5.88	5.90
2021		0.40	6.119	5.57	7.90
2022		0.48	6.850	4.39	10.20
2023		0.57	7.420	5.84	10.50
2010	Morison Industries Plc	0.03	0.500	1.25	1.30
2011		0.04	0.520	1.75	1.50
2012		0.02	0.550	1.88	11.40
2013		0.10	0.580	1.99	1.80
2014		0.15	0.620	2.39	11.60
2015		0.18	0.750	2.52	1.30
2016		0.08	0.810	1.80	2.10
2017		0.09	0.830	1.83	2.50
2018		0.11	0.870	1.85	1.80
2019		0.16	0.950	1.75	1.70
2020		0.14	1.050	1.88	2.90
2021		0.10	1.100	1.36	2.80
2022		0.05	1.250	1.83	3.10
2023		-0.09	1.390	2.18	3.50
2010	Neimeth International Pharmaceutical Plc	0.20	2.450	2.50	10.30
2011		0.21	3.150	3.00	9.50
2012		0.25	3.180	3.20	10.60
2013		0.28	3.220	3.00	10.90
2014		0.23	4.110	5.00	12.30
2015		0.22	4.170	6.00	6.30
2016		-0.15	4.260	6.50	4.50
2017		0.12	4.610	6.30	8.50
2018		0.17	5.080	6.10	15.30
2019		0.30	5.440	6.20	10.10
2020		0.25	5.790	6.30	5.30
2021		0.40	6.160	6.50	5.90
2022		-0.50	6.555	6.60	10.00
2023		-0.60	7.780	6.70	12.00
2010	Pharma-Deko Plc	0.50	0.130	0.05	0.31
2011		0.55	0.180	0.16	0.25
2012		0.55	0.190	0.19	0.84
2013		0.60	0.210	0.09	0.66
2014		0.70	0.230	0.08	0.91
2015		0.15	0.250	0.17	0.95
2016		-0.25	0.260	0.15	0.55
2017		0.30	0.250	0.11	0.71
2018		0.35	0.280	0.21	0.75
2019		0.32	0.320	0.28	0.78
2020		0.13	0.350	0.31	0.82
2021		0.20	0.370	0.45	0.85
2022		-0.80	0.390	0.59	0.86
2023		-1.50	0.397	0.63	0.80

Source: Annual Reports and Financial Accounts of Listed Healthcare Firms in Nigeria (2010-2023).

Multiple Regression Results for Testing of Hypotheses

Dependent Variable: EPS
Method: Panel Least Squares
Date: 04/03/24 Time: 12:32
Sample: 2010 2023
Periods included: 14
Cross-sections included: 6
Total panel (balanced) observations: 84

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GHC	0.040078	0.051823	0.773350	0.4422
REI	0.026484	0.020353	1.301219	0.1979
C	0.066133	0.183104	0.361178	0.7192

Effects Specification
Cross-section fixed (dummy variables)
Period fixed (dummy variables)

R-squared	0.603931	Mean dependent var	0.301429
Adjusted R-squared	0.478195	S.D. dependent var	0.465018
S.E. of regression	0.335910	Akaike info criterion	0.868373
Sum squared resid	7.108655	Schwarz criterion	1.476077
Log likelihood	-15.47168	Hannan-Quinn criter.	1.112665
F-statistic	4.803163	Durbin-Watson stat	0.514263
Prob(F-statistic)	0.000001		

Dependent Variable: MCP
Method: Panel Least Squares
Date: 04/03/24 Time: 12:33
Sample: 2010 2023
Periods included: 14
Cross-sections included: 6
Total panel (balanced) observations: 84

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GHC	0.209102	0.458741	0.455817	0.6501
REI	0.307583	0.180164	1.707242	0.0927
C	3.279986	1.620835	2.023640	0.0473

Effects Specification
Cross-section fixed (dummy variables)
Period fixed (dummy variables)

R-squared	0.870939	Mean dependent var	5.282274
Adjusted R-squared	0.829968	S.D. dependent var	7.211046
S.E. of regression	2.973474	Akaike info criterion	5.229657

Sum squared resid	557.0175	Schwarz criterion	5.837361
Log likelihood	-198.6456	Hannan-Quinn criter.	5.473949
F-statistic	21.25711	Durbin-Watson stat	0.238800
Prob(F-statistic)	0.000000		