
THE IMPACT OF AUDIT PRACTICES AND PROFITABILITY OF PHARMACEUTICAL COMPANIES IN NIGERIA

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Abstract

This study examined the impact of audit practices on the profitability of pharmaceutical companies in Nigeria. Specifically, the study sought to determine the effect of external audit on Return on Assets (ROA) and Return on Equity (ROE) of pharmaceutical companies in Nigeria. The study adopted a cross-sectional survey design. A sample of (10) pharmaceutical companies were selected for study. Data were collected through a structured questionnaire administered to accounting/finance personnel of the selected pharmaceutical companies. The reliability of the instrument was established using Cronbach's Alpha, with a coefficient of 0.79. Data were analyzed using descriptive statistics and simple linear regression. The findings revealed that external audit has a significant positive effect on Return on Assets, with an R^2 of 0.624 and a significance level of 0.006. The study also found that external audit has a significant positive effect on Return on Equity, with an R^2 of 0.672 and a significance level of 0.004. Based on these findings, the study concluded that effective external audit practices contribute significantly to the profitability of pharmaceutical companies. The study recommended that pharmaceutical companies should strengthen their external audit practices by engaging competent, independent and reputable external auditors and ensure the effective implementation of recommendations arising from external audit reports.

Keywords: Audit practices, external audit, profitability, Return on Equity (ROE), Return on Assets (ROA) and pharmaceutical companies.

Introduction

The pharmaceutical industry constitutes an important component of the Nigerian economy because of its contribution to healthcare delivery, employment generation, industrial development and the availability of medicines and other healthcare products. Pharmaceutical companies operate in an environment where substantial financial resources are committed to research, production, procurement, distribution and regulatory compliance. Consequently, the ability of pharmaceutical companies to maintain sound financial management and achieve sustainable profitability is important to shareholders, investors, creditors, regulators and other stakeholders. Profitability reflects the extent to which a company is able to generate returns from the resources entrusted to management and is therefore an important indicator of corporate financial performance. In this regard, Return on Assets (ROA) and Return on Equity (ROE) provide useful measures of profitability because they assess the efficiency with which firms employ their total assets and shareholders' equity to generate earnings.

One of the mechanisms capable of strengthening the reliability of corporate financial information and improving confidence in financial statements is auditing. Auditing involves the independent examination and evaluation of financial information with the objective of providing reasonable assurance that financial statements are prepared in accordance with applicable financial reporting requirements. External audit is particularly important because an independent external auditor provides an objective assessment of the financial statements prepared by management. Through the examination of accounting records, internal controls, transactions and financial disclosures, external auditors can identify material misstatements, irregularities and weaknesses that may affect the reliability of reported financial information. Effective external audit practices can therefore strengthen accountability, improve transparency and reduce information asymmetry between management and external stakeholders. The relevance of external auditing to corporate performance has received increasing attention in Nigerian accounting research. Ozegbe and Jeroh (2022), in their study of quoted companies in Nigeria, examined audit quality attributes including statutory audit services, auditor independence, audit tenure and audit-firm size in relation to financial performance. Using Return on Assets as a measure of performance, the study demonstrated that audit-related characteristics can have implications for corporate financial outcomes. Similarly, Okpala and Adetunbi (2024) investigated audit quality attributes among listed firms in Nigeria and examined factors such as audit fees, audit-firm rotation, audit-firm duration and auditor status in relation to financial performance. Their study reinforces the continuing importance of audit characteristics in understanding the financial performance of Nigerian companies.

The pharmaceutical sector provides an especially relevant context for examining the relationship between external audit practices and profitability. Unlike general manufacturing firms, pharmaceutical companies are exposed to significant regulatory, operational and financial pressures arising from the production and distribution of healthcare products. The quality and credibility of financial information are therefore important for stakeholders who rely on published financial statements to evaluate the financial condition and performance of these firms. Evidence from the Nigerian pharmaceutical sector indicates that audit quality is associated with financial performance. Ogiriki, et al., (2023) examined listed pharmaceutical firms in Nigeria using financial information covering 2015–2021. The study reported a significant relationship between aspects of audit quality and the financial performance of the sampled pharmaceutical companies and emphasized the importance of audit-firm characteristics in enhancing corporate performance.

Furthermore, Odin and Oziegbe (2022) examined auditors' independence, audit tenure and firm characteristics among listed pharmaceutical companies in Nigeria. Their study focused on ten pharmaceutical companies listed on the Nigerian Exchange and used audited financial statements covering 2013–2019. The findings indicated that auditors' independence, audit tenure, firm size and firm age were significantly related to audit quality. This is important because audit quality represents a critical component of effective external audit practice and can influence the credibility of financial information available to investors and other users of financial statements. Profitability, on the other hand, represents an important indicator of whether pharmaceutical companies are effectively converting their available resources and shareholders' investment into earnings. Return on Assets measures the ability of management to generate profit from the firm's asset base, while Return on Equity measures the return generated on shareholders' invested capital. The two measures provide complementary perspectives on profitability. While ROA focuses on asset-use efficiency, ROE emphasizes the returns attributable to shareholders. Their combined use can therefore provide a broader assessment of the financial consequences associated with effective external audit practices. Igben and Jeroh (2024), for instance, investigated audit quality and financial performance of multinational companies in Nigeria using ROA and ROE as performance measures. The study found that some audit-quality attributes, particularly audit report timeliness and joint audit, significantly influenced aspects of financial performance, while other audit attributes did not produce significant effects. The findings suggest that the relationship between audit practices and profitability may depend on the specific characteristics of the audit process being examined.

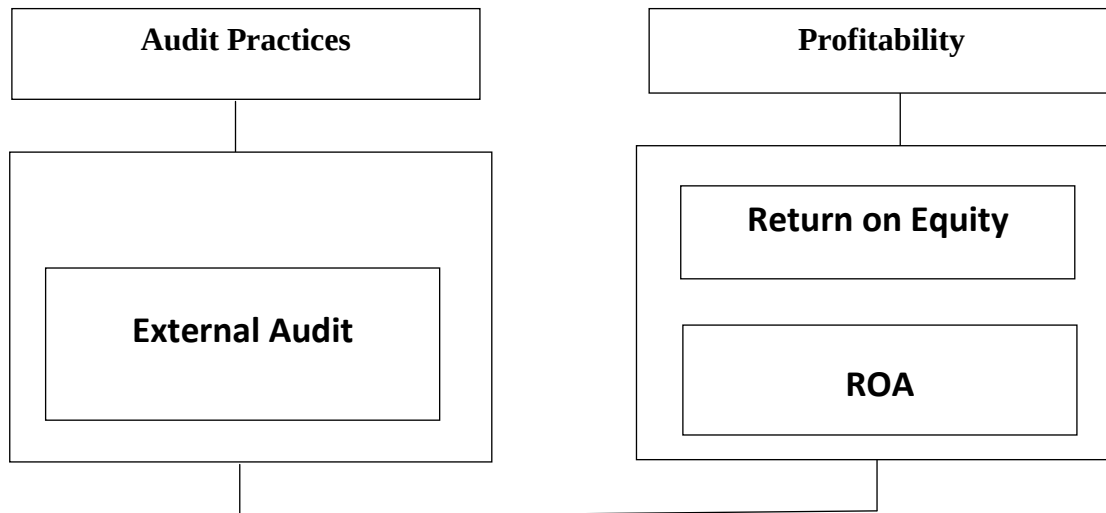
Despite the importance of auditing and profitability, the empirical relationship between external audit practices and the profitability of pharmaceutical companies in Nigeria requires further investigation. Existing Nigerian studies have frequently examined broad measures of audit quality, audit committee characteristics, financial reporting quality or general corporate performance, while relatively fewer studies have specifically focused on external audit practices and profitability within the pharmaceutical sector using both Return on Assets and Return on Equity. For instance, recent research on pharmaceutical firms has examined audit characteristics in relation to financial reporting quality rather than directly focusing on profitability. This creates an opportunity to further examine whether effective external audit practices are associated with improved profitability among pharmaceutical companies operating in Nigeria. It is against this background that this study examines the impact of audit practices and profitability of pharmaceutical companies in Nigeria, with external audit as the dimension of audit practices and Return on Assets (ROA) and Return on Equity (ROE) as measures of profitability. The study is intended to provide empirical evidence on whether the effectiveness of external audit practices contributes to the financial performance of pharmaceutical companies and, consequently, provide useful information to management, investors, auditors, regulators and other stakeholders in the Nigerian pharmaceutical industry.

Statement of the Problem

Pharmaceutical companies in Nigeria operate in a challenging business environment characterized by rising operating costs, regulatory pressures, exchange-rate fluctuations and intense competition, all of which can affect their profitability. Profitability, measured by Return on Assets (ROA) and Return on Equity (ROE), is therefore an important indicator of how effectively these companies utilize their resources and shareholders' funds. External audit is expected to enhance the credibility and reliability of financial statements by providing independent assurance on the financial information reported by management.

However, weaknesses in external audit practices may reduce the reliability of financial reports, weaken accountability and potentially affect investors' confidence and corporate financial performance. Previous studies in Nigeria have also reported mixed findings on the relationship between audit quality and financial performance, suggesting that the effect may vary across industries. Although some studies have examined audit quality and financial performance of pharmaceutical companies in Nigeria, limited attention has been given specifically to external audit and profitability measured by both ROA and ROE. This creates a gap that requires further investigation. Therefore, this study examines the impact of external audit on the profitability of pharmaceutical companies in Nigeria, using ROA and ROE as measures of profitability.

Conceptual Framework



Source: Researcher's Conceptualization 2026

Objectives of the Study

The main objective of this study is to examine the impact of audit practices on the profitability of pharmaceutical companies in Nigeria. Specifically, the study seeks to:

1. Examine the impact of external audit on the Return on Equity (ROE) of pharmaceutical companies in Nigeria.
2. Examine the impact of external audit on the Return on Assets (ROA) of pharmaceutical companies in Nigeria.

Research Questions

1. What is the impact of external audit on the Return on Equity (ROE) of pharmaceutical companies in Nigeria?
2. What is the impact of external audit on the Return on Assets (ROA) of pharmaceutical companies in Nigeria?

Hypotheses

- H01:** There is no significant impact of external audit on the Return on Equity (ROE) of pharmaceutical companies in Nigeria?
- H02:** There is no significant impact of external audit on the Return on Assets (ROA) of pharmaceutical companies in Nigeria?

Literature Review

Audit Practices

Audit practices refer to the procedures, processes and professional activities undertaken by auditors in examining, evaluating and reporting on the financial information and operations of an organization. The primary purpose of auditing is to provide reasonable assurance that financial statements are free from material misstatements and have been prepared in accordance with applicable accounting and financial reporting requirements. Audit practices therefore involve the systematic examination of accounting records, financial transactions, internal controls and other relevant evidence to enable auditors form an independent opinion on the credibility of financial statements. Effective audit practices are expected to enhance transparency, accountability and confidence in corporate financial reporting.

Audit practices are important because managers and owners of companies may have different interests, while external stakeholders such as shareholders, investors, creditors and regulators rely heavily on financial statements in making economic decisions. Auditing helps to reduce information asymmetry by providing an independent assessment of information prepared by management. According to Oziegbe and Odien (2022), audit quality is influenced by important audit characteristics such as auditor independence, audit tenure, auditor size and firm characteristics. Their study of ten listed pharmaceutical companies in Nigeria found that auditor independence, audit tenure, firm size and firm age had significant effects on audit quality. This demonstrates the importance of the manner in which audit engagements are conducted in determining the quality and credibility of audit outcomes.

Audit practices also contribute to corporate governance by strengthening monitoring mechanisms and promoting management accountability. A properly conducted audit can assist in identifying errors, irregularities, weaknesses in internal controls and possible manipulation of financial information. In this respect, audit practices are not limited to checking numerical accuracy but also involve assessing whether financial information fairly represents the economic activities and financial position of an organization. Nweze et al. (2024), for example, examined external audit quality in Nigerian deposit money banks and found that auditor independence, audit fees and audit-firm size significantly affected the accuracy and reliability of financial statements. The findings indicate that characteristics of the external audit process can influence the credibility of corporate financial reporting.

The relevance of audit practices is particularly important in pharmaceutical companies because these organizations are required to provide reliable financial information to a wide range of stakeholders while operating in a highly regulated business environment. Pharmaceutical companies make substantial investments in production, inventory, distribution, research and development and other business activities. Consequently, weaknesses in financial reporting or inadequate audit procedures may affect stakeholders'

assessment of the financial position and performance of these companies. Ogiriki et al. (2023), in their study of listed pharmaceutical firms in Nigeria, found a significant positive relationship between audit quality and financial performance. The study specifically reported that audit-firm characteristics were associated with the profitability of pharmaceutical companies, further demonstrating the relevance of effective audit practices within the sector.

External Audit

External audit refers to the independent examination of an organization's financial statements and related financial information by an auditor who is external to the organization. The external auditor is appointed to provide an independent opinion on whether the financial statements give a true and fair view, or are fairly presented, in accordance with the applicable financial reporting framework. External audit is therefore an important mechanism for enhancing the credibility of financial statements and protecting the interests of shareholders and other users of financial information. The independence of the external auditor is central to the effectiveness of external auditing. An external auditor is expected to maintain professional independence from the management of the organization being audited so that the audit opinion is not influenced by personal, financial or other relationships with the client. Oziegbe and Odien (2022) found that auditor independence had a positive and significant relationship with audit quality among listed pharmaceutical companies in Nigeria. Their findings suggest that maintaining auditor independence is important for achieving reliable and high-quality audit outcomes.

External audit can also be assessed through characteristics such as audit-firm size, audit tenure, audit fees, auditor independence and auditor specialization. These characteristics may influence the competence, resources, objectivity and effectiveness of auditors in carrying out their engagements. In the Nigerian pharmaceutical sector, Oziegbe and Odien (2022) used Big Four and non-Big Four audit firms as a proxy for audit quality and found that firm-related characteristics significantly influenced audit quality. Their evidence suggests that the characteristics of the external auditor can have important implications for the quality of assurance provided to pharmaceutical companies. External auditing is also relevant to the financial performance of pharmaceutical companies because credible financial statements can improve investors' confidence and strengthen managerial accountability. Ogiriki et al. (2023) found a statistically significant positive relationship between audit quality and the financial performance of listed pharmaceutical firms in Nigeria. Their findings support the argument that effective external auditing may contribute to improved corporate outcomes by strengthening the credibility of financial information and reducing weaknesses in financial reporting.

Therefore, external audit can be regarded as a critical component of audit practices because it provides independent assurance concerning the reliability of financial statements. For pharmaceutical companies in Nigeria, effective external audit may strengthen transparency, reduce financial reporting irregularities, improve stakeholder confidence and enhance managerial accountability. Consequently, this study examines external audit as the dimension of audit practices and investigates its impact on the profitability of pharmaceutical companies in Nigeria, measured by Return on Assets (ROA) and Return on Equity (ROE).

Profitability

Profitability refers to the ability of a company to generate earnings from the resources and capital employed in its business operations. It represents an important indicator of corporate financial performance because it shows the extent to which management is able to convert the resources available to the organization into financial returns. Profitability is of considerable importance to shareholders, investors, creditors, management and other stakeholders because a profitable company is generally better positioned to meet its financial obligations, reward shareholders, reinvest in its operations and sustain its activities over time. Profitability differs from the absolute amount of profit reported by a company because it considers the relationship between earnings and the resources employed to generate those earnings. A company may report a large amount of profit but still have relatively low profitability if the resources employed in generating that profit are very large. Consequently, profitability is commonly assessed through financial ratios that relate profit to assets, equity, sales or other relevant financial variables. Among the commonly used profitability measures are Return on Assets (ROA), Return on Equity (ROE), profit margin and earnings per share.

In the context of pharmaceutical companies, profitability is particularly important because firms in the industry require substantial investment in assets, inventories, production facilities, distribution networks and other operating resources. Their ability to generate adequate returns from these resources provides an indication of how efficiently management is operating the business. Okechukwu and Ugwu (2022), in their study of pharmaceutical firms in Nigeria, used Return on Assets as a measure of financial performance and examined how financial assets influenced the performance of the firms. Their findings showed that financial assets had a positive but insignificant effect on ROA, emphasizing the relevance of asset-based profitability in evaluating pharmaceutical firms in Nigeria. Similarly, Nwafor, et al., (2022) examined the impact of capital structure on the profitability of pharmaceutical companies in Nigeria and measured profitability using Return on Assets. Their study found that variations in capital structure explained a substantial proportion of changes in ROA and reported that total debt ratio was negatively related to profitability, whereas debt-equity ratio had a positive relationship with profitability. This demonstrates that profitability remains an important measure for evaluating the financial consequences of corporate financial and management decisions within the pharmaceutical industry.

Profitability is also relevant to assessing the effectiveness of corporate governance and auditing practices. Reliable financial reporting enables stakeholders to determine whether reported earnings accurately reflect the performance of the organization. Effective external audit can strengthen the credibility of financial information and enhance accountability, thereby potentially influencing management decisions and corporate financial outcomes. Ogiriki et al. (2023), for example, examined audit quality and financial performance among listed pharmaceutical firms in Nigeria and reported a significant relationship between audit quality and financial performance. This provides support for examining profitability as an outcome variable when investigating audit practices in pharmaceutical companies.

Return on Equity (ROE)

Return on Equity (ROE) is another important measure of profitability that assesses the ability of a company to generate earnings from shareholders' equity. It measures the return earned on the capital provided by the owners of the company and therefore provides an indication of how effectively management utilizes shareholders' funds to generate profit. A higher ROE

generally indicates that a company is generating greater returns from the equity invested by its shareholders, while a lower ROE may indicate relatively weaker utilization of shareholders' capital. ROE is particularly important to existing and potential investors because it connects corporate earnings with the amount of shareholders' capital invested in the business. Investors can use the ratio to assess the effectiveness with which management creates value from shareholders' funds. For this reason, ROE is frequently considered alongside ROA when evaluating corporate profitability. While ROA focuses on the efficiency of total assets, ROE focuses specifically on the returns generated from owners' equity.

The importance of ROE in assessing corporate profitability is demonstrated in recent financial-performance research. Igben and Jeroh (2024), for example, examined audit quality and the financial performance of multinational companies in Nigeria and employed both ROA and ROE as measures of financial performance. Their study found that certain audit-quality attributes had significant effects on financial performance, although the effects varied across the measures examined. This demonstrates the usefulness of employing both ROA and ROE to obtain a broader assessment of corporate financial performance.

ROE is also useful in the pharmaceutical sector because shareholders provide equity capital that enables companies to acquire assets, finance production and expand their operations. The ability of a pharmaceutical company to generate satisfactory returns from shareholders' funds can therefore influence investment decisions and shareholders' confidence. A company may have a satisfactory ROA but a different ROE because the two ratios capture different aspects of financial performance. Consequently, using both measures provides a more comprehensive assessment of profitability.

Return on Assets (ROA)

Return on Assets (ROA) is a profitability ratio that measures the ability of a company to generate profit from its total assets. It indicates how efficiently management utilizes the assets under its control to generate earnings. ROA is particularly useful because assets represent the economic resources available to a company for conducting its operations. A higher ROA generally indicates that management is using the company's asset base more efficiently to generate profit, while a lower ROA may indicate inefficient utilization of available resources. ROA is commonly calculated by dividing profit after tax or net income by total assets, usually expressed as a percentage. The ratio therefore provides an indication of the amount of profit generated for every unit of assets employed by the company. For pharmaceutical companies, ROA can provide insight into how effectively investments in production facilities, inventories, receivables, cash and other assets are being converted into earnings.

The use of ROA is well established in empirical studies involving Nigerian pharmaceutical companies. Okechukwu and Ugwu (2022) employed ROA as the dependent variable in examining the effect of financial assets on the financial performance of pharmaceutical firms in Nigeria. Similarly, Kehinde, et al., (2022) examined asset utilization and financial performance of pharmaceutical companies in Nigeria using ROA as the measure of financial performance. Their findings indicated that current asset ratio and non-current asset ratio had positive and significant relationships with profitability measured by ROA.

The relevance of ROA to pharmaceutical companies is further demonstrated by Ezuma (2022), who investigated capital structure and financial performance among listed

pharmaceutical companies in Nigeria. The study found a positive and significant relationship between equity capital and ROA. These findings suggest that ROA provides a useful basis for assessing how efficiently pharmaceutical companies utilize their asset base and financial resources to generate earnings. In this study, ROA is used to measure the profitability of pharmaceutical companies in Nigeria because it provides an indication of how efficiently the companies utilize their total assets to generate profit. It is therefore appropriate for determining whether external audit practices are associated with improved efficiency in the utilization of corporate assets.

Theoretical Framework - Agency Theory

Agency Theory was developed from the work of Jensen and Meckling (1976) and explains the relationship between principals (shareholders) and agents (managers) in an organization. The theory is based on the assumption that shareholders, who own the company, delegate decision-making responsibilities to managers. However, because managers may have personal interests that differ from those of shareholders, conflicts of interest and information asymmetry may arise. Managers generally possess more information about the company's activities and financial condition than shareholders, creating the possibility that corporate resources may not always be managed in the best interests of the owners. External audit serves as an important monitoring mechanism for reducing the agency problems identified by Agency Theory. An independent external auditor examines the financial statements prepared by management and provides assurance to shareholders and other stakeholders concerning the credibility and reliability of the reported financial information. By independently assessing management's financial reporting, external audit can reduce information asymmetry, discourage opportunistic behaviour and increase management accountability. In this regard, effective external audit practices can help protect shareholders' interests by ensuring that managers provide reliable information about the company's financial performance. The relevance of Agency Theory to the present study is based on the argument that effective external auditing can improve the monitoring of management and consequently influence corporate financial performance. When managers know that their financial decisions and reports will be independently examined, they may be encouraged to utilize company resources more efficiently and comply with established financial reporting requirements. Improved accountability and monitoring may contribute to better utilization of assets and shareholders' funds, which can ultimately be reflected in higher Return on Assets (ROA) and Return on Equity (ROE).

Agency Theory is particularly relevant to pharmaceutical companies in Nigeria because these companies involve substantial investments by shareholders and require management to make decisions concerning production, procurement, inventory, financing and other corporate resources. Shareholders may not have direct access to all information concerning these activities. Consequently, external auditors provide an independent monitoring mechanism that can reduce the information gap between management and shareholders. Effective external auditing may therefore enhance the credibility of financial reports and strengthen management accountability, potentially contributing to improved profitability. Therefore, Agency Theory provides a strong theoretical foundation for this study because it establishes a logical connection between external audit and corporate profitability. The theory suggests that effective external auditing can reduce agency conflicts, improve monitoring and enhance the reliability of financial information, which may ultimately influence the financial performance of pharmaceutical companies. Thus, Agency Theory supports the examination

of the impact of external audit on Return on Assets (ROA) and Return on Equity (ROE) of pharmaceutical companies in Nigeria.

Empirical Review

Ogiriki, et al., (2023) examined the relationship between audit quality and the financial performance of listed pharmaceutical firms in Nigeria. The study adopted an ex-post facto research design and obtained secondary data from the published financial reports of five listed pharmaceutical companies covering the period from 2015 to 2021. The study employed ordinary least squares regression to test the hypotheses. Audit quality was examined using audit-firm characteristics, while financial performance was assessed through profitability indicators. The findings revealed a positive and statistically significant relationship between audit quality and the financial performance of the sampled pharmaceutical firms. The study further reported that companies audited by Big Four audit firms had better prospects of achieving improved financial performance. The study recommended greater attention to the engagement of reputable audit firms. This study is closely related to the present study because it examined audit practices and financial performance specifically within the Nigerian pharmaceutical industry. However, the present study differs by focusing specifically on external audit and measuring profitability using both Return on Assets (ROA) and Return on Equity (ROE).

Igben and Jeroh (2024) investigated audit quality and the financial performance of multinational companies in Nigeria. The researchers used secondary data obtained from the financial statements of 10 listed multinational companies. The study measured financial performance using Return on Assets (ROA) and Return on Equity (ROE), while audit quality was measured using audit report timeliness, joint audit, audit tenure and audit fees. Robust regression was employed to test the hypotheses. The findings revealed that audit fees and audit tenure did not significantly influence ROA and ROE, respectively. However, audit report timeliness and joint audit were found to have significant effects on the financial performance of the sampled multinational companies. The study concluded that certain aspects of audit quality have the potential to influence corporate financial performance, although their effects may differ according to the specific audit attribute and performance measure considered. The study is particularly relevant to the present research because it employed both ROA and ROE as measures of financial performance.

Okpala and Adetunbi (2024) examined audit quality attributes and financial performance of listed firms in Nigeria. The study used secondary data obtained from the annual reports and accounts of 30 selected manufacturing companies listed on the Nigerian Exchange Group for a seven-year period from 2015 to 2021. The study investigated audit fee, audit-firm rotation, audit-firm duration and auditor status as audit-quality attributes, while financial performance was measured using earnings before interest and tax margin. Panel Generalized Least Squares was used for the analysis. The findings demonstrated that audit-quality attributes have implications for the financial performance of listed firms in Nigeria. The study provides evidence that characteristics of external auditors and the manner in which audit engagements are conducted can influence corporate financial outcomes. Although the study focused on manufacturing companies rather than pharmaceutical companies, it provides useful evidence supporting the relationship between external audit practices and corporate performance in Nigeria.

Mbatuegwu, et al., (2025) investigated audit quality as a determinant of financial performance in listed oil and gas companies in Nigeria. The study covered the period from 2014 to 2023 and used data obtained from the annual reports of the sampled companies. Financial performance was measured using Return on Assets (ROA), Return on Equity (ROE) and Tobin's Q, while audit quality was represented by audit-firm size, audit tenure, audit-firm industry specialization and audit fees. Panel regression techniques were employed to analyze the data. The findings showed that audit tenure had a negative but negligible effect on financial performance, whereas audit-firm size, industry specialization and audit fees had positive and significant effects on financial performance. The study therefore demonstrated that specific characteristics of external auditing can contribute to differences in corporate financial performance. The study is relevant to the present research because it employed both ROA and ROE, which are also the profitability measures adopted in the present study.

Methodology

The study adopted a cross-sectional survey design. The population comprised pharmaceutical companies in Nigeria. Ten (10) pharmaceutical companies in Port Harcourt, Rivers State were selected for study using simple random sampling technique. Data were collected from the accounting/finance personnel using a structured questionnaire. The instrument recorded a Cronbach's Alpha reliability coefficient of 0.79. Data were analyzed using descriptive statistics and simple linear regression. The study is anchored on the following regression models:

$$ROA = \beta_0 + \beta_1 EA + \varepsilon \dots\dots\dots 1$$

$$ROE = \beta_0 + \beta_1 EA + \varepsilon \dots\dots\dots 2$$

Where: ROA = Return on Assets; ROE = Return on Equity; EA = External Audit; β_0 = Constant; β_1 = Regression coefficient; and ε = Error term.

Results

Table 1: Descriptive Statistics of Study Variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation
External Audit (EA)	10	2.40	4.90	3.82	0.64
Return on Assets (ROA)	10	2.30	4.80	3.76	0.67
Return on Equity (ROE)	10	2.40	4.90	3.81	0.65

Source: SPSS Output (2026)

The mean score for external audit (3.82) indicates that the sampled pharmaceutical companies generally have favourable external audit practices. Return on Assets recorded a mean of 3.76, suggesting a relatively favourable perception of the companies' ability to generate returns from their assets. Similarly, Return on Equity recorded a mean of 3.81, indicating a favourable perception of the companies' ability to generate returns from

shareholders' equity. The standard deviations, ranging from 0.64 to 0.67, indicate relatively low variation in respondents' opinions.

Hypothesis One: There is no significant impact of external audit on the Return on Equity (ROE) of pharmaceutical companies in Nigeria.

Table 2: Model Summary for External Audit and Return on Equity

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.820	0.672	0.631	0.398

Source: SPSS Output (2026)

Table 3: ANOVA for External Audit and Return on Equity

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.603	1	2.603	16.42	0.004
Residual	1.268	8	0.159		
Total	3.871	9			

Source: SPSS Output (2026)

Table 4: Regression Coefficients

Model	Unstandardized B	Std. Error	Beta	t	Sig.
Constant	1.026	0.691		1.485	0.176
External Audit	0.740	0.183	0.820	4.044	0.004

Source: SPSS Output (2026)

The model summary indicates that the correlation coefficient (R) is 0.820, indicating a strong positive relationship between external audit and Return on Equity. The R^2 value of 0.672 indicates that 67.2% of the variation in Return on Equity is explained by external audit, while the remaining 32.8% is explained by other factors not included in the model. The ANOVA table shows an F-value of 16.42 with a significance level of 0.004, which is less than 0.05. This indicates that the regression model is statistically significant. The regression coefficient of 0.740 indicates that a unit increase in external audit will lead to a 0.740 increase in Return on Equity. Since the p-value of 0.004 is less than 0.05, external audit has a significant positive impact on Return on Equity. Therefore, the null hypothesis is rejected.

Hypothesis Two: There is no significant impact of external audit on the Return on Assets (ROA) of pharmaceutical companies in Nigeria.

Table 5: Model Summary for External Audit and Return on Assets

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.790	0.624	0.577	0.432

Source: SPSS Output (2026)

Table 6: ANOVA for External Audit and Return on Assets

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.480	1	2.480	13.29	0.006
Residual	1.493	8	0.187		
Total	3.973	9			

Source: SPSS Output (2026)

Table 7: Regression Coefficients

Model	Unstandardized B	Std. Error	Beta	t	Sig.
Constant	1.163	0.713		1.631	0.141
External Audit	0.680	0.186	0.790	3.656	0.006

Source: SPSS Output (2026)

The model summary shows that the correlation coefficient (R) is 0.790, indicating a strong positive relationship between external audit and Return on Assets. The R² value of 0.624 indicates that 62.4% of the variation in Return on Assets is explained by external audit, while the remaining 37.6% is explained by other factors not included in the model. The ANOVA table shows an F-value of 13.29 with a significance level of 0.006, which is less than 0.05. This indicates that the regression model is statistically significant. The regression coefficient of 0.680 indicates that a unit increase in external audit will lead to a 0.680 increase in Return on Assets. Since the p-value of 0.006 is less than 0.05, external audit has a significant positive impact on Return on Assets. Therefore, the null hypothesis is rejected.

Discussion of Findings

The study also found that external audit has a significant positive effect on Return on Equity (ROE) of pharmaceutical companies in Port Harcourt, Rivers State, Nigeria. The regression analysis showed a strong positive relationship (R = 0.820), while the coefficient of

determination ($R^2 = 0.672$) indicated that external audit explains 67.2% of the variation in Return on Equity. The regression coefficient ($\beta = 0.740$) and p-value ($0.004 < 0.05$) confirmed the significance of the relationship. This finding indicates that effective external audit practices can contribute to better utilization of shareholders' funds and improved returns to equity holders. Independent examination of financial statements can enhance management accountability, reduce information asymmetry and increase the credibility of financial information available to shareholders. This may encourage management to make more efficient financial decisions, ultimately improving the returns generated from shareholders' equity. The result agrees with Igben and Jeroh (2024), who found that audit quality attributes significantly influenced financial performance, including ROE, among multinational companies in Nigeria. It also supports Mbatuegwu et al. (2025), whose findings showed that selected audit-quality characteristics had significant effects on financial performance measured using ROE.

The findings of the study revealed that external audit has a significant positive effect on Return on Assets (ROA) of pharmaceutical companies in Port Harcourt, Rivers State, Nigeria. This was evidenced by the regression result which showed a strong positive relationship ($R = 0.790$), with a coefficient of determination ($R^2 = 0.624$), indicating that external audit explains 62.4% of the variation in Return on Assets. The regression coefficient ($\beta = 0.680$) and the p-value ($0.006 < 0.05$) confirmed that external audit significantly improves ROA. This finding implies that effective external audit practices can strengthen accountability, improve the reliability of financial information and encourage efficient utilization of company assets. When pharmaceutical companies subject their financial activities to independent and effective external examination, weaknesses in financial management and reporting may be identified and corrected, thereby contributing to improved asset utilization and profitability. The finding is consistent with the study of Ogiriki et al. (2023), which found a significant positive relationship between audit quality and the financial performance of listed pharmaceutical firms in Nigeria. Similarly, Mbatuegwu et al. (2025) reported that audit quality characteristics significantly influenced financial performance, including ROA, among listed companies in Nigeria.

Conclusion

Based on the findings, the study concludes that external audit is an important determinant of the profitability of pharmaceutical companies in Nigeria. The results indicate that external audit has a significant positive impact on both Return on Assets (ROA) and Return on Equity (ROE). The findings suggest that effective external audit practices can improve accountability, enhance the credibility of financial reports, strengthen management monitoring and encourage efficient utilization of corporate resources. Consequently, pharmaceutical companies that maintain effective and independent external audit practices may be better positioned to improve their financial performance and generate higher returns for shareholders. The study therefore concludes that strengthening external audit practices is important for improving the profitability and overall financial sustainability of pharmaceutical companies in Nigeria.

Recommendations

Based on the findings of the study, it is recommended that pharmaceutical companies should ensure the effective implementation of recommendations arising from external audit reports by promptly addressing identified weaknesses and irregularities. This will promote better

management of shareholders' funds, strengthen financial accountability and contribute to improved Return on Equity (ROE).

Furthermore, pharmaceutical companies should strengthen their external audit practices by engaging competent, independent and reputable external auditors to regularly examine their financial records. This will enhance accountability, improve the reliability of financial information and encourage the efficient utilization of company assets, thereby improving Return on Assets (ROA).

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