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EARNINGS MANAGEMENT PRACTICES AND FIRM PERFORMANCE OF LISTED PHARMACEUTICAL COMPANIES IN NIGERIA

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Abstract
This study investigated the relationship between earnings management practices and the performance of listed pharmaceutical companies in Nigeria. An ex post facto research design was adopted, and data was collected from six selected firms over a 13-year period (2010–2022), using audited annual reports. Earnings management was assessed through discretionary accruals management (DAC), real activities management (REC). Data analysis was conducted using the Panel Least Squares (PLS) estimation method, following appropriate diagnostic tests. The results showed that discretionary accruals management had a consistently negative but statistically insignificant relationship with all three firm performance measures, suggesting limited impact on performance. In contrast, real activities management demonstrated statistically significant relationships across all firm performance indicators. It had a positive and significant effect on market capitalization and enterprise value, indicating short-term enhancements in market-based valuation. However, it negatively and significantly affected book value, suggesting potential depletion of intrinsic asset worth due to operational manipulations. This indicate that manipulating real business activities — such as altering sales timing or reducing discretionary spending—can temporarily boost market-based valuations. However, the same practice had a significantly negative relationship with book value, reflecting the erosion of a firm's net asset base. Based on these findings, the study recommends that firms in the pharmaceutical sector exercise caution when engaging in earnings management practices, particularly real activities manipulation because of the inherent long term risks. Regulatory authorities and industry stakeholders should enhance monitoring mechanisms and reporting requirements, especially around operational activities that can be easily adjusted to inflate performance figures.

Keywords: Discretionary accruals management. Real activities management. Market capitalization. Enterprise value. Book value.

Introduction

A central aim of earnings management is to influence stakeholder perceptions, particularly those of investors and market analysts, by presenting results that align with or surpass expectations (César, Antonio, & Newton, 2016; Burgstahler & Chuk, 2011). Managing

earnings to signal stability or financial robustness, firms make efforts to boost investor confidence and thereby support or inflate their market valuation (Chakroun & Amar, 2019; Cheong et al., 2015). However, such manipulation can distort the firm's actual financial condition, possibly leading to suboptimal investment decisions and increasing risk exposure for both investors and other stakeholders (Cheong et al., 2015; Burgstahler & Chuk, 2011). In relation to firm performance, earnings management plays a critical role in shaping market perceptions and in influencing valuation mechanisms (Leung, 2016).

The effects of earnings management can be both immediate and long-term. In the short run, firms may engage in activities such as earnings smoothing or income inflation to meet performance expectations, minimize earnings volatility, or present consistent growth trends (Leung, 2016). These strategies may in the short term support share prices and enhance the firm's market reputation (Sunardi, 2018; Putu et al., 2019). However, these gains are often shortlived - and if market participants uncover inconsistencies, the resulting loss of trust can lead to stock devaluation or investor flight (Afrizal, Gamayuni, & Syaipudin, 2021; Yulius, 2017). Over the long term, the exposure of manipulated financial results can have far-reaching consequences. Discrepancies between reported and actual performance may invite regulatory intervention, damage reputations, and erode shareholder value (Abdullahi et al., 2020; Afrizal et al., 2021). As Afrizal et al. (2021) suggest, when firms prioritize short-term gains through aggressive accounting choices, they risk undermining sustainable value creation. In extreme cases, investor scepticism can restrict access to capital markets or credit facilities, pushing firms toward financial distress unless remedial measures are undertaken.

In Nigeria, the regulation of corporate financial disclosures is governed by a legal and institutional framework aimed at promoting accountability, reliability, and transparency (Uwuigbe, Daramola, & Oyeniyi, 2014; Saidu, Ocheni, & Muktar, 2017). At the forefront is the Companies and Allied Matters Act (CAMA), which mandates firms to prepare and present financial statements in accordance with International Financial Reporting Standards (IFRS) (Omoye & Eriki, 2014; Musa & Kamardin, 2016). Oversight is provided by the Financial Reporting Council of Nigeria (FRCN) and the Securities and Exchange Commission (SEC), which enforce standards and ensure fair and transparent market practices (Osamor, Abata, & Elluh, 2020).

Although the adoption of IFRS has aligned Nigeria's financial reporting practices with global norms (Umobong, 2015), challenges remain, particularly in enforcement capacity, compliance variability, and regulatory inefficiencies (Osamor et al., 2020). Furthermore, various corporate governance codes have been introduced to improve accountability and reporting integrity (Atu et al., 2016; Kurdi, 2010). Nonetheless, enforcement gaps allow room for earnings manipulation to persist. Managers may exploit accounting discretion through varying practices, including revenue recognition timing, expense deferrals, provisioning manipulation, asset valuation adjustments, or even use of off-balance-sheet transactions (Ozili & Outa, 2019; Cohen & Zarowin, 2010). For instance, early revenue recognition or channel stuffing can inflate income, while delaying impairment losses can mask deteriorating asset values (Afrizal et al., 2021; Cheng & Warfield, 2011). These actions ultimately distort financial performance and compromise decision-making by stakeholders.

Historical cases from Nigeria's banking sector provide evidence of the implications of such practices. During the 2007–2008 financial crisis, several banks were found to have overstated earnings through under-provisioning and other manipulative tactics (Farouk & Muhammad, 2018; Agbata et al., 2022) and others engaged in transactions that misled investors and regulators, contributing to systemic failures and necessitating sector-wide reforms. While much of the attention on earnings manipulation in Nigeria has focused on the financial services industry due to regulatory visibility, similar concerns persist in non-financial sectors. This study will focus more attention on the pharmaceutical sector and seek to examine how earnings management affects the performance and value of publicly listed pharmaceutical companies in Nigeria.

Statement of the Problem

Earnings management is often employed by firms as a strategic tool to enhance market perception and sustain shareholder confidence (Afrizal et al., 2021; Amarjit, Nahum, Harvinder, & Mathur, 2013). Managers may manipulate reported earnings to project a narrative of financial stability and consistent growth, thereby appealing to investors and strengthening the company's standing in the capital market. These practices, although potentially beneficial in the short term, can significantly influence stock performance, valuation metrics, and broader investor sentiment (Afrizal et al., 2021). However, when these actions misrepresent the underlying economic reality, they pose risks to long-term credibility and stakeholder trust (Amarjit et al., 2013). However, companies that rely heavily on these practices may experience reputational damage and capital flight if stakeholders lose confidence in the integrity of their financial reports (Farouk & Muhammad, 2018; Okubokeme & Gbalam, 2022). This erosion of trust can lead to a decline in firm value, negatively affecting competitiveness and access to financing.

In Nigeria, earnings management continues to attract academic attention due to its widespread implications. Prior studies have largely concentrated on its relationship with financial performance (Okafor & Ezeagba, 2018; Olaniyi & Abubakar, 2018), corporate governance (Okpe, 2013; Uwuigbe, Daramola, & Oyeniyi, 2014), and financial reporting quality (Ozili & Outa, 2019; Osamor, Abata, & Elluh, 2020). Additionally, some scholars have examined its impact on firm value, though such investigations have primarily focused on sectors like manufacturing and financial services (Olaoye & Akinleye, 2020; Saidu, Ocheni, & Muktar, 2017). Despite this growing body of research, there remains a noticeable gap concerning the pharmaceutical industry - a sector critical to public health and economic stability. There is limited empirical evidence exploring how earnings management practices influence the firm value of listed pharmaceutical companies in Nigeria. This study seeks to address this gap by evaluating the relationship between earnings management and firm performance within this under-researched but strategically important sector.

Aim and Objectives

The aim of this research is to investigate how earnings management activities affect Firm performance and market performance of listed companies in the pharmaceutical industry in Nigeria. The specific objectives are to:

i.determine whether discretionary accruals management practice affect stock market value;
ii.identify whether discretionary accruals management practice affect book value;
iii.investigate whether discretionary accruals management practice affect enterprise value;
iv.ascertain whether real activities management practice affect stock market value;
v.identify whether real activities management practice affect book value; and
vi.assess whether real activities management practice affect enterprise value.

Conceptual Perspectives on Earnings Management Techniques

Earnings management refers to the deliberate use of accounting methods and discretion by managers to influence reported earnings and shape perceptions of financial performance. While some forms of earnings management are permitted within accounting standards, aggressive or unethical practices can distort the firm's true economic reality (Zang, 2012; Chhabra, 2016). In emerging markets like Nigeria, where regulatory oversight is still evolving, earnings management raises serious concerns about transparency, market efficiency, and investor trust. Managers may adopt these practices to portray financial stability or meet strategic targets, thereby affecting how stakeholders evaluate firm performance and value. Understanding the underlying motives and implications of such practices is vital in assessing their role in shaping the financial performance of listed pharmaceutical firms.

A common earnings management strategy is income smoothing, where managers adjust accruals to reduce fluctuations in earnings across reporting periods. This creates an impression of consistent profitability, which can enhance investor confidence and support the firm's valuation (Kliestik et al., 2020). For example, adjusting provisions for bad debts or deferring expenses allows firms to stabilize reported earnings. While this may help attract investors by reducing perceived risk, it can also mask underlying financial instability. Over time, excessive reliance on income smoothing can mislead stakeholders, resulting in misallocated resources and eroded market confidence (Uwuigbe et al., 2015; Baskaran et al., 2020).

Other notable practices include big bath accounting and cookie jar reserves. Big bath accounting involves recording large losses or write-offs in a single period—typically during restructuring or downturns—to make future earnings appear stronger (Patro & Kanagaraj, 2016). Cookie jar reserves, on the other hand, entail overestimating provisions during profitable years and releasing them during weaker periods to inflate earnings (Matonti et al., 2021). While these techniques may serve short-term strategic goals, they compromise the integrity of financial statements and may lead to long-term valuation risks, especially when inconsistencies are uncovered by analysts or regulators (Ghazali et al., 2015).

More aggressive methods such as channel stuffing and improper revenue recognition are also employed to inflate sales and earnings. These involve shipping excessive inventory or recognizing unearned income to boost revenue figures temporarily (Donegan et al., 2017; Gujarathi & Dugar, 2020). While such tactics may momentarily enhance firm performance indicators, they invite regulatory scrutiny, damage corporate reputation, and distort financial decision-making. The misuse of earnings management can have particularly damaging

effects on long-term performance and investor confidence in sector where like the pharma industry where credibility is critical.

Models for Detecting Earnings Management in Financial Reporting

Over time, scholars have developed several models to detect, measure, and predict the extent of such practices. These models typically focus on abnormal accruals or deviations from expected operating patterns, and they have been used widely in empirical accounting research. Key models include the Jones Model, Modified Jones Model, Dechow-Dichev Model, and Real Activities Management Model. Each provides a unique lens for assessing the quality and reliability of reported earnings.

The Jones Model, developed in 1991, estimates discretionary accruals by analysing the relationship between total accruals, changes in revenues, and property, plant, and equipment. It assumes that abnormal accruals are evidence of earnings manipulation (Dechow et al., 2012). Its major strength lies in its simplicity and reliance on publicly available financial data. However, its effectiveness is limited by its sensitivity to accounting standard changes and its inability to fully detect more sophisticated forms of manipulation (Höglund, 2012).

The Modified Jones Model improves upon the original by adjusting for changes in receivables and incorporating firm-specific factors like size and leverage. It provides more precise estimates of discretionary accruals by controlling for firm and industry characteristics (Costa & Soares, 2022) as it focuses on identifying abnormal accruals as potential indicators of earnings manipulation (Dechow, et al., 2012). This makes it more effective at identifying earnings manipulation, particularly in sectors with significant variation in accounting practices. Nevertheless, the model's complexity can be a barrier for practitioners without advanced analytical tools.

The Dechow-Dichev Model takes a different approach by assessing the quality of accruals based on their relationship with cash flows. High-quality earnings should exhibit a strong correlation between accruals and cash flows, whereas weak correlations may signal manipulation (Kliestik et al., 2021). The model's strength lies in its broader view of earnings quality, but it can be affected by volatility in cash flow patterns and requires consistent historical data to apply effectively (Rahman et al., 2013).

Unlike accrual-based models, Real Activities Management (RAM) focuses on operational decisions that alter financial outcomes—such as accelerating sales, cutting R&D, or overproducing inventory. Roychowdhury (2006) introduced a model to identify abnormal patterns in operational activities that deviate from normal business behaviour. Although RAM techniques are harder to detect using traditional accrual models, they often come at the cost of long-term efficiency and can mask underlying operational risks.

Stakeholder Theory and Its Relevance to Earnings Management

Stakeholder theory provides a robust theoretical framework for understanding how earnings management practices intersect with the broader interests of diverse stakeholder groups. The theory asserts that corporations should not focus solely on maximizing shareholder wealth but must also consider the needs and expectations of other stakeholders—including employees, customers, creditors, regulators, and communities—who are affected by

corporate decisions (Wati, Honggowati, & Supriyono, 2014). This broader view challenges the shareholder-centric model by promoting inclusivity and responsibility in strategic and financial decisions.

Earnings management, when viewed through the lens of stakeholder theory, highlights potential tensions between short-term financial gains and long-term stakeholder value. Managers may engage in earnings manipulation to meet market expectations, influence stock prices, or trigger performance-based bonuses—often at the expense of transparency and stakeholder trust (Scholtens & Kang, 2013; Ni, 2020). For instance, overstating earnings might benefit shareholders temporarily but can mislead lenders, regulators, or employees, who depend on accurate financial disclosures. Similarly, underreporting profits to reduce tax liabilities may harm shareholder confidence. These conflicting interests capture the ethical dilemma embedded in earnings management decisions, reinforcing the need for stakeholder-inclusive governance.

Stakeholder theory also advocates for governance mechanisms that discourage opportunistic behaviour. Boards of directors that include diverse stakeholder perspectives, robust audit committees, and performance evaluation metrics aligned with social and environmental objectives can reduce the incentive for earnings manipulation (Cohen, Dey, & Lys, 2008). Aligning executive compensation with long-term stakeholder value rather than short-term earnings further reinforces ethical financial practices. In this way, stakeholder theory supports a holistic and ethical approach to corporate governance, emphasizing transparency, sustainability, and inclusive decision-making as tools for deterring earnings management and enhancing organizational integrity (Parvin, Rana, & Shams, 2020).

Empirical Evidence

The relationship between earnings management and financial performance has been widely investigated across different sectors and geographical contexts. Boachie and Mensah (2022) adopted a dynamic panel framework to examine firms in English-speaking Sub-Saharan Africa, revealing that earnings management has persistent effects on corporate performance even after controlling for endogeneity and unobserved heterogeneity. Importantly, their findings emphasized the mediating role of corporate governance, noting that strong internal systems reduce opportunistic earnings practices while enhancing firm performance. In the Nigerian context, Yahaya (2022) focused on CEO characteristics and their influence on earnings manipulation. Data from 57 firms showed that CEO tenure correlated positively with earnings management, suggesting entrenched CEOs may be more prone to manipulation. However, CEO duality—where the same person holds both CEO and board chair positions—was associated with reduced earnings manipulation, suggesting enhanced governance outcomes under unified leadership.

Several other studies offer mixed results on the earnings management–performance nexus. Temile et al. (2021), analyzing 90 listed non-financial firms, found that while some forms of manipulation such as incorrect asset valuations boosted performance, others like revenue falsification reduced it. This reflects the complex and contextual nature of earnings manipulation outcomes. Obi (2021) provided further nuance by exploring pre- and post-IFRS periods in Nigeria. His findings show a shift from accrual-based to real transaction-based

management after IFRS adoption, suggesting evolving strategies to maintain financial performance metrics under stricter standards. Olaoye and Akinleye (2020) investigated accrual and real earnings management in Nigerian manufacturing firms. They found that while accrual-based techniques were positively related to return on equity (ROE), real earnings management had a diminishing effect. This dual finding supports the notion that not all earnings management strategies yield the same implications for firm performance.

Some studies present more neutral or even negative outcomes. Ubesie et al. (2020) and Okafor & Ezeagba (2018) both observed statistically insignificant effects of earnings management on firm performance, suggesting that manipulation may not always materially impact financial outcomes—especially in the consumer goods sector. Olotu et al. (2019) similarly reported that only inventory turnover, among several performance measures, was jointly influenced by accrual and real earnings management. This limited effect casts doubt on the assumption that earnings manipulation consistently improves firm metrics. Conversely, Abdullahi et al. (2020) established a strong positive relationship between earnings management and profitability, implying that manipulative practices can inflate returns, particularly return on assets (ROA), within a large dataset of 84 listed Nigerian firms. Meanwhile, Ogiriki and Iweias (2020) examined financial leverage as a driver of earnings management. Their results showed weak but positive associations, with leverage affecting real and deferred tax earnings management more than accrual-based strategies.

Methodology

This paper takes the quantitative analysis approach. This is deemed appropriate considering the nature of data and methods analysis - both of which depend on quantitative (numerical) data extracted from the audited annual reports of listed organisations operating in phamaceutical industry. Additionally, the ex-post facto design is the adopted as the appropriate for this study as it is concerned with the analysis of data on past event to explain the impact, relationship, effect or differences between variables (Kim, & Singhal, 2003). The target population of interest comprise of all listed Pharmaceutical companies in Nigeria. The choice of this population is informed by the fact that there the phenomenon of interest (earnings management) has received only minimal interest in the sector.

Thus there is an indentified to interrogate how earnings management affect the performance of organisations in the industry. Considering the small population as there are only a handful of listed organisations operating in the sector in Nigeria, it was deemed appropriate to conduct a census - which involves studying the entire population rather than selecting a sample subset (Kim, & Singhal, 2003). This approach provides a comprehensive and accurate representation of the population characteristics. This will also ensure that the conclusions of the research can be reliably generalized to all companies in the industry.

Based on information on the website of the Nigeria Exchange Group (NGX), there are seven listed pharmaceutical companies in Nigeria. However, one of these companies (Mecure PLC) is a recent listing (2023) and as such is not eligible for the research. Therefore, the sample for this study comprise of all six companies in the sector with adequate dataset.

Consistent with the suggestions of the research design, the data for this study are secondary in nature. This is obtained through the process of content analysis on historical accounting,

finance and economic events and business transactions reported in the audited annual reports and accounts as well as other publications of the relevant companies. The period of interest spans thirteen years from 2010 - 2022. In addition to relying on published audited annual reports and accounts as the primary sources of data, the research will also collect complementary data (where necessary) from the individual websites of the concerned companies as well as the Nigeria Exchange Group (NGX) website.

The study employs proxies in literature to measure the criterion variable (firm performance) as Market Capitalization (MCP), Book Value (BKV) and Enterprise Value (EVL). Similarly, the explanatory variable (Earnings Management) which is discussed with its dimensions as: Discretionary Accruals Management (DAC), and Real Activities Management (REC). It is also important to note that calculation of Earnings Management will be based on the Modified Jones Model for discretionary accruals (DAC) detection and Roychowdhury's 2006 model for Real Activities (REC) detection. These models are deemed most suitable as they are widely recognised accepted by scholars for their accuracy.

The data will be analysed with the aid of descriptive statistic panel least square (PLS) regression method. Other diagnostic tests are conducted to establish validity. These include, test for stationary, heteroskedasticity and Breusch and Pagan LM test for random effects. It is posited that organisational performance - proxied with market capitalization (MCP), and enterprise value (EVL) are functionally dependent on earnings management which was measured using discretionary accruals management (DAC), and real activities management (REC). Additionally, Firm Size (FZE) and non-discretionary accruals (NDA) are included in the model as moderating variables. This is represented as a functional equation:

Firm performance = f(Earnings Management, Firm Size) 1

The above functional form is expanded as follows:

MCP = f(DAC, NDA, REC, FZE) 2

BKV = f(DAC, NDA, REC, FZE) 3

EVL = f(DAC, NDAC, REC, FZE) 4

The following statistical models are used

$MCP = \beta_0 + \beta_1 DAC + \beta_2 NDA\ \beta_3 REC + \beta_4 FZE + \varepsilon_i$ 5

$BKV = \beta_0 + \beta_1 DAC + \beta_2 NDA\ \beta_3 REC + \beta_4 FZE + \varepsilon_i$ 6

$EVL = \beta_0 + \beta_1 DAC + \beta_2 NDA\ \beta_3 REC + \beta_4 FZE + \varepsilon_i$ 7

Data and Results

Table 1 Descriptive Statistics

	Mean	Median	Maximum	Minimum	Std. Dev.	J-B	Prob.	Obs
MCP	6620000000	2360000000	65100000000	2.01E+08	11600000000	421.6123	0	78
BKV	3410334	1774828	16980217	26738	3714310	100.9204	0	78
EVL	6620000000	2370000000	65100000000	2.02E+08	11600000000	421.7975	0	78
FZE	7401524	4545128	31121864	1487556	6903637	71.65678	0	78
DAC	10.04918	0.640256	621.6634	-63.1077	73.18334	12936.15	0	78
REC	1.34374	1.124411	9.439237	-1.07616	1.9737	108.5643	0	78
NDA	5.832498	5.815451	8.027994	3.516531	0.775888	4.537233	0.1035	78

The descriptive statistics in Table 1 summarize data for six Nigerian pharmaceutical firms over 13 years (2010–2022), yielding 78 firm-year observations. The average market capitalization (MCP) is ₦6.62 billion, but the wide standard deviation (₦11.6 billion) and median of ₦2.36 billion suggest a skewed distribution with a few large firms. Book value (BKV) averages ₦3.41 million, with considerable variation, ranging from ₦26,738 to ₦16.98 million. Enterprise value (EVL) mirrors MCP in mean and range. Firm size (FZE), a moderating variable, has a mean log value of 7.40, indicating relative uniformity in asset scale. Discretionary accruals (DAC), a proxy for earnings management, average 10.05 but show extreme volatility (−63.11 to 621.66), while non-discretionary accruals (NDA)—another moderating variable—remain stable (mean: 5.83; SD: 0.78). Real earnings management (REC) averages 1.34 with moderate variability.

Table 2: Summary of Panel Unit Root Test Results

Variables	ADF - Fisher Chi-square	Probability	Order of Integration
MCP	24.3585	0.0182	I(0)
BKV	56.9126	0.0000	I(1)
EVL	22.7954	0.0295	I(0)
DAC	49.9156	0.0000	I(0)
REC	37.1813	0.0002	I(0)
NDA	35.0111	0.0005	I(0)
FZE	28.9816	0.0040	I(0)

Table 2 reports the unit root test results using the ADF-Fisher Chi-square method to verify data stationarity. All variables, including MCP, EVL, DAC, REC, NDA (a moderating variable), and FZE, are stationary at level form [I(0)], confirming suitability for panel regression. Only Book Value (BKV) required first differencing, showing integration at order I(1), indicating mixed integration across variables.

Table 3: Hausman Test Results for MCP, DAC, REC, NDA, and FZE

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	18.45778	4	0.001

Table 3 presents the Hausman test results, confirming the fixed effects model (FEM) as appropriate over the random effects model (REM). With a Chi-square statistic of 18.458 (p = 0.001), the result indicates significant firm-level heterogeneity, justifying FEM for analyzing MCP against DAC, REC, NDA, and FZE.

Table 4: Regression Result for MCP, DAC, REC, NDA, and FZE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.90121	1.30524	8.351879	0.0000
DAC	-0.00043	0.000375	-1.15249	0.2532
REC	0.051691	0.022488	2.298672	0.0246
NDA	-0.01103	0.041192	-0.26774	0.7897
FZE	-0.22235	0.198621	-1.11945	0.2669
R-squared: 0.8757; F-stat: 53.2154; Prob. (F-stat): 0.000; Durbin-Watson stat: 0.8005				

Table 4 presents the fixed effects regression results evaluating the impact of Discretionary Accruals (DAC), Real Earnings Management (REC), Non-Discretionary Accruals (NDA), and Firm Size (FZE) on Market Capitalization (MCP) of listed pharmaceutical firms in Nigeria. Discretionary accruals (DAC) show a negative, though statistically insignificant, relationship with MCP (β = -0.00043, p = 0.2532), suggesting minimal impact of accrual-based earnings manipulation on firm value. Conversely, Real Earnings Management (REC) has a positive and statistically significant effect on MCP (β = 0.0517, p = 0.0246), implying that real activities manipulation may enhance short-term market valuation. Non-Discretionary Accruals (NDA), treated as a moderating variable, exhibit a negative but insignificant relationship with MCP (β = -0.01103, p = 0.7897), indicating limited influence on firm value. Similarly, Firm Size (FZE) reveals a negative, non-significant association with market capitalization (β = -0.22235, p = 0.2669), suggesting that larger asset bases may not directly translate to higher market value in this sector. The model's high R-squared value of 0.8757 confirms that 87.57% of the variation in market capitalization is explained by the independent variables. Additionally, the F-statistic (53.2154) and its p-value (0.000) confirm the overall significance and robustness of the model.

Table 5: Hausman Test Results for BKV, DAC, REC, NDA and FZE

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	13.82066	4	0.0079

Table 5 presents the Hausman test result comparing fixed and random effects models for Book Value (BKV). The Chi-square statistic of 13.8207 (p = 0.0079) is significant at the 5% level, rejecting the null hypothesis and confirming that the fixed effects model is appropriate due to firm-specific influences on book value

Table 6: Regression Result for BKV, DAC, REC, NDA, FZE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.78841	1.40378	4.8358	0.0000
DAC	-0.0000466	0.0004	-0.1157	0.9082
REC	-0.09400	0.02419	-3.8871	0.0002
NDA	0.00858	0.0443	0.1936	0.8471
FZE	-0.0567	0.21362	-0.2654	0.7915
R-squared: 0.7489; F-stat: 22.5310; Prob.(F-stat): 0; Durbin-Watson stat; 1.6345				

Table 6 presents the regression analysis examining the effects of Discretionary Accruals (DAC), Real Earnings Management (REC), Non-Discretionary Accruals (NDA), and Firm Size (FZE) on Book Value (BKV) for listed pharmaceutical firms in Nigeria. Based on the Hausman test outcome, a fixed effects model was adopted. DAC showed a negative but statistically insignificant relationship with BKV (coefficient = -0.0000466; p = 0.9082), indicating a minimal 0.0047% decline in book value per unit increase in DAC. REC exhibited a significant negative association with BKV (coefficient = -0.0940; p = 0.0002), implying a

9.40% decline in BKV, likely due to operational inefficiencies from aggressive real activities management. NDA recorded a positive but insignificant relationship with BKV (coefficient = 0.00858; p = 0.8471), indicating a limited impact of routine accruals. Similarly, FZE showed a negative and insignificant effect (coefficient = -0.0567; p = 0.7915), suggesting firm size does not meaningfully affect BKV. The model's R-squared value of 0.7489 indicates that approximately 74.89% of the variability in BKV is explained by the independent variables. The F-statistic of 22.5310 (p = 0.000) confirms the overall statistical significance of the model.

Table 7: Hausman Test Results for EVL, DAC, REC, NDA and , FZE

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	18.46554	4	0.001

Table 7 presents the Hausman test results for EVL against DAC, REC, NDA, and FZE. With a Chi-Square of 18.47 (p = 0.001), the result is statistically significant at the 5% level, rejecting the null hypothesis and confirming fixed effects as the appropriate model due to firm-specific influences on enterprise value

Table 8: Regression Result for EVL, DAC, REM, NDA) and FZE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.88935	1.303594	8.353336	0.0000
DAC	-0.00043	0.000374	-1.149552	0.2544
REC	0.051705	0.022459	2.302178	0.0244
NDA	-0.011075	0.04114	-0.269207	0.7886
FZE	-0.220457	0.19837	-1.111341	0.2703
R-squared: 0.87577; F-stat: 53.2628; Prob.(F-stat): 0.0000;			*Durbin-Watson stat: 0.8011*	

Table 8 presents regression results examining the effects of DAC, REC, NDA, and FZE on the enterprise value (EVL) of listed pharmaceutical firms in Nigeria, using a fixed effects model based on prior Hausman test results. Discretionary accruals (DAC) show a negative but statistically insignificant relationship with EVL (β = -0.00043; p = 0.2544), suggesting a minor adverse effect. Real earnings management (REC) exhibits a positive and statistically significant relationship with EVL (β = 0.0517; p = 0.0244), indicating that increased real activities management is associated with a 5.17% rise in enterprise value. Non-discretionary accruals (NDA) are negatively related to EVL (β = -0.0111), though insignificantly (p = 0.7886), implying a minimal impact. Similarly, firm size (FZE) has a negative but statistically insignificant relationship with EVL (β = -0.2205; p = 0.2703), suggesting that firm size does not meaningfully influence enterprise value in this context. Overall, the model demonstrates strong explanatory power, with an R-squared value of 0.8758, indicating that 87.58% of the variance in enterprise value is explained by the included variables. The F-statistic of 53.2628 (p = 0.000) confirms the overall statistical significance of the regression model.

Discussion of Findings

The analysis reveals that discretionary accruals (DAC), often linked to earnings manipulation, consistently exhibited a negative but statistically insignificant relationship with all three firm performance indicators—market capitalization, book value, and enterprise value. While DAC showed a minimal adverse effect on market capitalization (coefficient = -0.00043; p = 0.2532), the insignificance of this result suggests that investors in Nigeria's pharmaceutical sector may not heavily rely on or react to discretionary accruals when assessing firm performance. This aligns with Jones (1991), who observed that discretionary accruals typically have limited influence on market-based valuation, particularly in environments with lower market efficiency or limited investor access to detailed financial information (Olaoye & Akinleye, 2020). The same pattern held for book value, with a negligible negative coefficient (-0.0000466; p = 0.9082), indicating a weak relationship between discretionary accruals and the firms' net asset values. Similarly, enterprise value was negatively affected (coefficient = -0.00043), though again insignificantly (p = 0.2544). These results collectively suggest that earnings manipulation via discretionary accruals has a limited role in shaping firm performance in this sector, potentially due to regulatory transparency or investors' focus on more tangible performance metrics.

In contrast, real earnings management (REC) showed significant relationships with all three performance indicators, though in varied directions. A positive and statistically significant relationship was found between REC and market capitalization (coefficient = 0.0517; p = 0.0246), indicating that firms engaging in operational manipulations may experience short-term boosts in market value. This supports findings by Roychowdhury (2006), which suggest that such practices often inflate revenue and earnings, improving investor sentiment and temporarily enhancing valuation. A similar positive and significant effect was observed on enterprise value (coefficient = 0.0517; p = 0.0244), reinforcing the notion that REC can elevate broader valuation metrics. However, this short-term benefit may compromise long-term performance as operational inefficiencies or resource depletion could later reduce profitability and firm resilience (Nwaobia et al., 2019).

Conversely, REC had a statistically significant negative relationship with book value (coefficient = -0.0940; p = 0.0002), suggesting that real activities management practices may adversely affect the intrinsic net asset position of firms. The erosion of internal resources or distortion in operations tied to real earnings manipulation could undermine the firms' actual financial health, even while boosting market-facing metrics. This dual impact—positive on market-based measures but negative on intrinsic value—highlights the complexity of real earnings management in shaping firm performance. Investors may favour short-term gains reflected in market capitalization and enterprise value, even as internal metrics such as book value decline. Overall, the findings suggest that while REC may be effective in boosting perceived firm performance in the short run, it poses risks to long-term value creation and operational sustainability in Nigeria's pharmaceutical industry.

Conclusion and Recommendations

Discretionary accruals were found to have a consistently negative but statistically insignificant effect on all measures of firm performance, including market capitalization,

book value, and enterprise value. This suggests that efforts by firms to manipulate earnings through accounting estimates and assumptions do not significantly influence investor perception or the intrinsic valuation of firms in this sector. Such outcomes may reflect the relatively informed nature of investors in the industry, the limited effectiveness of discretionary accruals in shifting key performance indicators, or strong regulatory oversight that diminishes the impact of such manipulations on reported firm value.

Conversely, real earnings management demonstrated a more complex influence on firm performance. It had a statistically significant and positive relationship with market capitalization and enterprise value, indicating that manipulating real business activities — such as altering sales timing or reducing discretionary spending—can temporarily boost market-based valuations. However, the same practice had a significantly negative relationship with book value, reflecting the erosion of a firm's net asset base. This dual effect is an indication of the short-term appeal but potential long-term risk associated with real earnings management. While it may create a perception of strong performance in the eyes of investors and analysts, it ultimately weakens the firm's financial foundations and sustainability.

Based on these conclusions, it is recommended that firms in the pharmaceutical sector exercise caution when engaging in earnings management practices, particularly real activities manipulation. Although such actions may result in short-term improvements in valuation, they risk undermining long-term performance and financial stability. Managers should instead focus on strengthening the efficiency of operations and transparency. Regulatory authorities and industry stakeholders should also enhance monitoring mechanisms and reporting requirements, especially around operational activities that can be easily adjusted to inflate performance figures.

Additionally, investors and financial analysts are encouraged to look beyond headline earnings and market indicators when evaluating firm performance. Greater emphasis should be placed on fundamental measures such as book value and long-term cash flows to provide a more accurate assessment of financial health. Training and awareness initiatives could also help improve investor literacy around the implications of different earnings management techniques. Finally, there should be continued efforts to improve the robustness of financial reporting standards and enforce compliance within the sector, in order to promote accountability, protect stakeholder interests, and promote long-term growth

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