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CASH MANAGEMENT PRACTICES AND MARKET VALUE OF LISTED PHARMACEUTICAL FIRMS IN NIGERIA.

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ABSTRACT

Poor cash management exposes businesses to illiquidity and insufficiency, hindering the ability to meet daily liquidity requirements. In view of this, the study examined the relationship between cash management practices and market value of listed pharmaceutical firms in Nigeria. The specific objectives were to determine the relationship between cash conversion cycle and market capitalization of listed pharmaceutical firms in Nigeria, to ascertain the relationship between current ratio and market capitalization of listed pharmaceutical firms in Nigeria and to assess the relationship between of cash ratio and market capitalization of listed pharmaceutical firms in Nigeria. The study adopted an ex-post facto research design and utilized a panel data of seventy (70) pooled observations gathered from seven (7) listed pharmaceutical firms in Nigeria over ten (10)-year period (2014-2023) and employed a panel multiple regression technique to analyze the data via E-views 10.0 statistical package. The study findings revealed that cash conversion cycle has a non-significant positive relationship (Coeff. = 0.003378 {0.8406}) with the market capitalization of listed pharmaceutical firms in Nigeria while operating cashflow has a significant positive relationship (Coeff. = 0.258792 {0.0469}) with the market capitalization of listed pharmaceutical firms in Nigeria. It also revealed that cash ratio has a significant positive relationship (Coeff. = 2.741821 {0.0007}) with market capitalization of listed pharmaceutical firms in Nigeria. It was however concluded that effective cash management practices, particularly cash ratio enhances the market value of pharmaceutical firms in Nigeria. The recommendations made included that should focus on optimizing their working capital management practices to reduce their cash conversion cycle at all times

Keywords: Cash Conversion Cycle, Operating Cash Flow, Cash Ratio, Market Value, Market Capitalization and Pharmaceutical Firms

1.1 Introduction

Cash management practices refer to the strategies, policies, and procedures used by a company to manage its cash flows, liquidity, and financial resources. Effective cash management

practices are crucial for the profitability and sustainability of pharmaceutical and healthcare organizations. In this sector, just like in others, cash is the lifeblood that enables companies to invest in research and development, meet operational expenses, and maintain liquidity (Ugo & Egbuhuzor, 2022). Efficient cash management involves monitoring and optimizing net cash payments and receipts to minimize disbursements and expenses, ensuring timely payment of expenses, such as salaries, rent, and utility bills (Nangih et al., 2020). Sound cash control is vital for pharmaceutical companies to manage their working capital, including inventories of raw materials and finished goods, receivables from customers, and marketable securities (Musah & Kong, 2019). Financial managers must strike a balance between liquidity and investment returns, enabling informed decisions on orrowing and investment in research and development, marketing, and expansion (Eton et al., 2025). Accurate cash forecasting is critical for pharmaceutical companies to make informed decisions on resource allocation, investments, and funding requirements (Nwaobia et al., 2016).

Effective cash acquisition and utilization enable companies to meet liquidity requirements, invest in profitable projects, and pursue growth opportunities, such as mergers and acquisitions (Nwaobia et al., 2016). Conversely, poor cash management practices lead to cash flow problems, hindering companies' ability to invest in research and development, meet financial obligations, and respond to market opportunities (Egwu et al., 2021). In the pharmaceutical sector, cash flow issues have severe consequences, including delayed product launches, reduced research and development, and decreased competitiveness (Appah et al., 2021).

In the context of market value, effective cash management practices tend to enhance pharmaceutical companies' market value by demonstrating financial discipline, reducing debt, and increasing profitability as all businesses that are profitable have goal achievement as their top priority (Okurebia & Udo, 2023). Investors seek stable financial growth, profitability, and robust returns, making cash management a critical factor in investment decisions (Olugbenga et al., 2014). By optimizing cash management practices, pharmaceutical companies tend to improve their market value, attract investors, and achieve sustainable growth and profitability. Managers of pharmaceutical firms in Nigeria grapple with various obstacles such as high financial requirements, insufficient capital, and cash flow constraints, ultimately impacting overall performance and expected returns (Appah et al., 2021). Despite these circumstances, effective cash management practices can mitigate risks and enhance the financial performance of these firms. By employing strategic cash management techniques, firms can navigate economic uncertainties, optimize their cash resources, and generate superior investment returns. According to Udo, Baridam & Akpan (2023), an organization's management should place a higher priority on business strategy than on planning. It is crucial to adapt strategies to the specific challenges faced by each organization and the prevailing market dynamics. Prioritizing sound cash management practices empowers business entities to leverage their cash effectively, ensuring financial stability, profitability, and sustainable growth. Through efficient cash planning, diligent cash flow management, and astute investment decisions, firms in Nigeria can optimize their financial performance, overcome challenges, and attract investors seeking higher returns.

Statement of the Problem

In today's corporate landscape, cash management has emerged as a pivotal element in strategic planning for organizations. The availability of cash holds immense significance, serving as a catalyst for operational and financial well-being (Egwu et al., 2021). Astute managers recognize that effective cash management is the lifeline of their enterprises, with a strong emphasis on achieving financial objectives. It is therefore imperative for organizations to align themselves with cash management policies that effectively handle working capital, encompassing cash sales, debtors' collection, stock holdings, and payments to suppliers, ultimately fostering enhanced financial performance (Abughniem et al., 2020).

Ugo and Egbuhuzor (2022) emphatically asserted that the growth of the health sector hinges entirely on resourceful liquidity management. The impact of cash flows on a firm's market value simply cannot be overlooked. While holding cash confers certain advantages, it also incurs a cost – the opportunity cost of potential profits that could be earned if the cash was invested elsewhere (Soet et al., 2018). Optimal investment returns necessitate a high level of competence and efficiency in managing cash and other liquid assets. Poor cash management exposes businesses to illiquidity and insufficiency, hindering the ability to meet daily liquidity requirements (Musah & Kong, 2019). Sufficiency in cash flow ensures prompt fulfillment of financial obligations, safeguarding the survival of firms. Essentially, cash flow represents a company's vascular system, and any depletion jeopardizes its very existence.

In addressing these anomalies in corporate setting, this study examined the relationship between cash management practices with particular emphasis on cash ratio, cash conversion cycle and current ratio and how they affect market value of listed pharmaceutical firms in Nigeria.

Objectives of the Study

The main objective of this study was to examine the relationship between cash management practices and market value of listed pharmaceutical firms in Nigeria. The specific objectives were to:

1. Determine the relationship between cash conversion cycle and market capitalization of listed pharmaceutical firms in Nigeria.
2. Ascertain the relationship between operating cashflow and market capitalization of listed pharmaceutical firms in Nigeria.
3. Assess the relationship between of cash ratio and market capitalization of listed pharmaceutical firms in Nigeria.

Research Questions

This study sought to provide reliable answers to the following questions:

1. What is the effect of cash conversion cycle on market capitalization of listed pharmaceutical firms in Nigeria?
2. To what extent does operating cashflow affect market capitalization of listed pharmaceutical firms in Nigeria?
3. How does cash ratio affect market capitalization of listed pharmaceutical firms in Nigeria?

Research Hypotheses

The following hypotheses as stated in their null form were adopted for the study;

H_{01}: There is no significant relationship between cash conversion cycle and market capitalization of listed pharmaceutical firms in Nigeria

H_{02}: There is no significant relationship between operating cashflow and market capitalization of listed pharmaceutical firms in Nigeria

H_{03}: There is no significant relationship between cash ratio and market capitalization of listed pharmaceutical firms in Nigeria

Scope of the Study

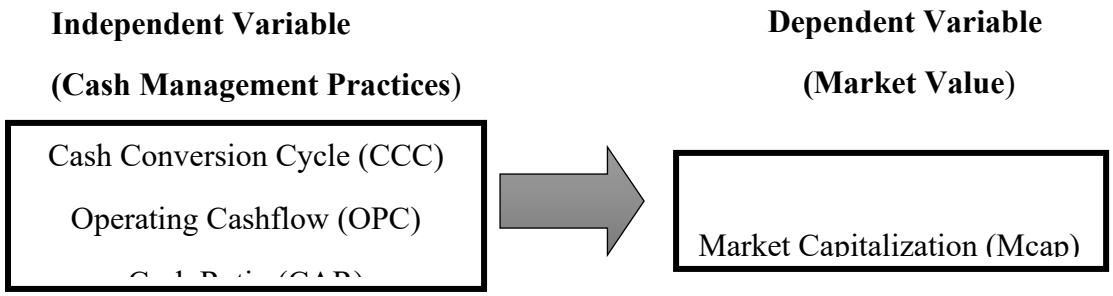
Content Scope: This study examined the relationship between cash management practices and market value of listed pharmaceutical firms in Nigeria. The explanatory variables for cash management practices were cash conversion cycle, operating cashflow and cash ratio. Market capitalization was however used as a surrogate for the dependent variable (market value).

Geographical Scope: This study focuses exclusively on listed pharmaceutical firms in Nigeria, covering a ten-year period from 2014 to 2023. The geographical scope is deliberately limited to Nigeria to provide an in-depth understanding of the cash conversion cycle and its impact on the financial performance of pharmaceutical firms within this specific context

Unit Scope: The unit of analysis for this study is the individual listed pharmaceutical firm in Nigeria. The study operates at a micro level, focusing on the firm-level data and analysis. These firms are; Ekocorp plc, Fidson healthcare plc, GlaxoSmithline plc, May and Baker plc, Morison ind. Plc, Neithmeth pharm plc and Pkarma-Deko plc.

REVIEW OF RELATED LITERATURE

Conceptual Framework



Source: Researcher's Conceptualization, (2025)

The Concept of Cash Management Practices

Effective cash management practices is crucial for a company's financial health, as it involves monitoring, analyzing, and optimizing the net amount of cash receipts and cash expenses made

by business firms (Ogbonnaya et al., 2016). Net cash flow is a vital measure of financial health, and cash management practices, such as frequent cash flow analysis, are essential to address cash flow problems like illiquidity. Cash management performance involves planning, organizing, and controlling cash inflows and outflows in an entity during a particular period (Ejike & Agha, 2018). The amount of cash available significantly influences financial performance, and cash is the lifeblood of any corporate entity, necessary for acquiring assets to generate goods and services, determine profit, and maximize shareholder wealth (Akumu, 2017). Liman and Mohammed (2018) confirmed that corporate investment performance depends on a firm's ability to generate sufficient cash flows from various cash flow statement components. Organizations that prioritize performance management and continuous improvement are more likely to succeed and thrive in today's competitive landscape (Okon & Udo, 2024).

This study explores the effect of cash management practices on market value, considering three explanatory variables as proxies for cash management practices: Cash conversion cycle, operating cashflow, and cash ratio.

Variables of Cash Management Practices

Cash Conversion Cycle

The Cash Conversion Cycle (CCC) measures the duration in days between a company's payment for trade payables and collection from trade receivables, significantly impacting its market value (Richards & Laughlin, 1980). The CCC encompasses days of sales outstanding, days of inventory outstanding, and days of payables outstanding, which correlate with cash inflows and outflows (Nwaiwu & Oluka, 2017). A shorter CCC indicates better liquidity and cash flow management, leading to enhanced market value (Boubker & Hicham, 2021). Effective CCC management supports cash flow forecasting, enabling informed long-term funding and investment decisions, reducing bad debt risk, and improving liquidity, ultimately strengthening performance ratios and creditworthiness.

Good CCC management is crucial for cash flow forecasting, supporting better long-term funding and investment decisions, reducing bad debt risk, and improving liquidity, leading to stronger performance ratios and increased creditworthiness. The incorporation of CCC into traditional indicators provides a more comprehensive assessment of a firm's liquidity status (Boubker & Hicham, 2021). Practical, operational, and commercial limitations exist on how low cash flow levels can drop without harming investment performance, emphasizing the significance of cash flow management in maintaining a healthy market value. As a result, the management of cash flows has a profound impact on performance indicators such as return on assets, return on capital employed, return on assets, cash value added, and ultimately, market value.

Operating Cashflow

Operating cash flow is a vital indicator of a company's liquidity and working capital management, providing insight into its ability to meet short-term obligations, such as funding

research and development, purchasing raw materials, and paying suppliers (Nangih et al., 2020). This metric offers a comprehensive picture of a company's working capital adequacy and its capacity to meet day-to-day payment commitments, making it an essential tool for investors and analysts assessing market value (Oseifuah & Gyekye, 2017). In the pharmaceutical sector, operating cash flow is a critical measure of liquidity, as it considers the overall magnitude of each fund and provides a relative measure for inter-firm comparison (Nwaiwu & Oluka, 2017). A higher operating cash flow indicates a greater margin of safety for short-term creditors, enhancing market value and investor confidence.

Operating cash flow represents the cash generated by a company's core business operations, such as sales, production, and distribution, minus the cash used to support these operations, such as cost of goods sold, salaries, and other operating expenses (Nangih et al., 2020). A higher operating cash flow indicates a stronger liquidity position, enabling pharmaceutical companies to invest in growth opportunities, respond to market changes, and maintain their competitive edge, ultimately positively impacting market value. Operating cash flow is widely recognized as a key metric for assessing a company's liquidity and working capital management (Nwaiwu & Oluka, 2017). In the pharmaceutical sector, effective management of operating cash flow is crucial for companies to navigate industry challenges and maintain a healthy market value. A positive operating cash flow is essential for pharmaceutical companies to invest in research and development, expand their product portfolios, and respond to changing market conditions, ultimately driving growth and profitability.

Cash Ratio

In the pharmaceutical industry, the cash ratio is a vital indicator of a company's liquidity and financial health, representing the most liquid assets in its financial statements (Akenga, 2017). This ratio assesses a company's ability to pay its short-term obligations, such as funding research and development, purchasing raw materials, and paying suppliers, within a one-year period. A cash ratio lower than 1 may indicate financial difficulty, but it can also reflect a company's strategic decision to maintain low cash reserves (Akenga, 2017). The cash ratio compares a pharmaceutical company's most liquid assets, including cash, cash equivalents, and marketable securities, to its current liabilities, such as accounts payable, short-term debt, and accrued expenses (Boubker & Hicham, 2021).

A higher cash ratio indicates a stronger liquidity position, enabling pharmaceutical companies to invest in research and development to stay ahead of the competition, respond quickly to changes in the market or industry, maintain a competitive edge through strategic acquisitions or partnerships, and weather financial storms, such as economic downturns or unexpected expenses. Conversely, a lower cash ratio may indicate financial difficulty, making it challenging for pharmaceutical companies to meet their short-term obligations, such as paying suppliers or employees, invest in growth opportunities, such as new product development or marketing initiatives, and respond to changes in the market or industry, making them less competitive. Therefore, the cash ratio is a crucial metric for investors and analysts to assess a pharmaceutical company's financial health and liquidity position. By analyzing the cash ratio, investors and analysts can gain insight into a pharmaceutical company's liquidity position, financial health, and ability to create value for shareholders.

Market Value

The concept of market value has been considered from various perspectives, including earnings quality, financial performance, stock growth, and investment returns (Liman & Mohammed, 2018). Shareholders' wealth maximization model, which is the primary corporate objective, can be expressed as a motivator for the financial objective of public corporations, such as maximizing market value and profitability simultaneously. Effective cash management practices play a crucial role in achieving this objective, as they enable companies to optimize their liquidity, reduce costs, and increase profitability, ultimately leading to an increase in market value. The commonly used financial objectives are to maximize shareholders' wealth, profitability, and growth in market value as seen in Appah et al., (2021).

From the perspective of growth in market value, an increase in market value would mean more wealth for shareholders, either through dividend payouts or retained profits reinvested to further increase market value in the future (Soet et al., 2018). Cash management practices, such as efficient cash flow management, working capital optimization, and short-term investment strategies, are essential in achieving growth in market value. Effective cash management practices, such as minimizing cash conversion cycles and optimizing cash reserves, can contribute to a higher ROA, ultimately leading to an increase in market value. In addition, cash management practices can also impact market value by reducing the risk of liquidity crises, minimizing the cost of capital, and increasing the company's creditworthiness.

Bassey, Attih and Uford (2025) highlight that perceived market value plays a critical role in the service sector, where the inherent intangibility and variability make value perceptions highly subjective. The authors emphasize that brands can enhance perceived market value by delivering superior service quality and fostering strong emotional connections with customers. This approach not only increases customer patronage and willingness to pay a premium but also contributes to long-term business success and sustainable market capitalization.

Variable of Market Value

Market Capitalization (Mcap)

A company's market capitalization, or market cap, reflects its perceived size and value, based on the total value of its outstanding shares (Kimmel et al., 2017). Effective cash management is crucial in driving market capitalization, as it enables companies to boost liquidity, reduce costs, and increase profitability, ultimately enhancing market value (Liman & Mohammed, 2018). Efficient cash flow management and smart short-term investments can minimize liquidity risks and lower capital costs, contributing to increased market capitalization (Soet, et al., 2018). Companies with robust cash management practices are more resilient to financial shocks, can maintain investor trust, and attract new investors, all of which can drive up market capitalization.

Nangih et al., (2020) opined that market capitalization companies are often seen as more stable and less risky, making it easier to secure investors and access capital markets. Conversely, companies with low market capitalization may face challenges in accessing capital markets and managing cash flows, underscoring the importance of effective cash management in maintaining a healthy market capitalization. By grasping the interplay between market

capitalization and cash management, companies can refine their financial strategies to achieve their objectives and maximize shareholder value.

Theoretical Framework

The Trade-off Theory (Kraus and Litzenberger, 1973)

Effective cash management practices are crucial for maintaining a healthy market value, as they enable firms to optimize their liquidity, reduce costs, and increase profitability (Kraus & Litzenberger, 1973). The trade-off theory propounded by Kraus and Litzenberger in 1973 postulates that the optimal cash level of a firm is maintained at the breakeven point where the marginal cost and benefit of holding cash are equal, thereby maximizing shareholders' wealth (Orshi, 2016). This delicate balance is essential, as sufficient cash outflow outweighing inflow can signify weak liquidity control, debt, bad inventory, feeble investment skills, and financial managers' incompetence to critically engage in optimal financing decisions. A firm's cash or liquidity position and performance status are two economic expressions with unidirectional movement, implying that cash flow and investment performance have diametrically opposing ends (Al-Abass, 2017).

The pursuit of one will entail a trade-off of the other, highlighting the importance of maintaining an ideal level of liquidity to create cost and benefits of handling cash symmetry. The liquidity trade-off hypothesis suggests that a firm must aim for an optimal level of liquidity to minimize the opportunity cost characterized by low liquidity return, which can be accredited to liquidity premium and possible tax obligations (Abughniem et al., 2020). Effective cash management practices, such as maintaining a cash buffer against unexpected losses, minimizing the costs of obtaining external capital, and lessening the risk tie nexus with selling the firm's assets, are essential for maintaining a balanced liquid-performance nexus. However, cash handling also has its drawbacks, such as increasing agency costs, particularly for firms with higher leverage (Boubker & Hicham, 2021). To maintain a balanced liquid-performance nexus, an appropriate level of liquid resources is required. Firms must carefully manage their cash flows, short-term assets, and equivalent payables to ensure sustained corporate existence and reputation.

Empirical Framework

Ogbeide and Akanji, (2025) examined the relationship between cash flow and financial performance of insurance companies in a developing economy – Nigeria. Using time series data for the period 2009-2014, twenty-seven listed insurance firms in Nigeria were selected as sample size. The study uses both descriptive and inferential statistics to determine the relationship among the variables. It also employs the series of diagnostic tests to ensure stability of the time series used as well as to ensure the model meets the assumption of ordinary list square. The findings reveal that cash flow was observed to determine insurance firms' financial performance and is statistically significant. Cash flow from operating activities was observed to significantly increase financial performance of insurance companies in the period examined. Cash flow from financing activities was found to increase the financial performance of the sampled insurance firms, but was not statistically significant. The size of the insurance company did not increase the financial performance of the insurance firms and was also not statistically significant.

Eton et al., (2025) sought to establish the effect of cash management on financial performance of business entities in Lira district. A cross-sectional study design was adopted and data was collected by use of structured and closed ended questionnaire. However, the study found that the aforementioned practices were not sustainable with time due to incompetence in forecasting receipts and payments. This led to a conclusion that cash management has an insignificant effect on financial performance. The study recommended that Business associations like Uganda Chamber of Commerce, Uganda Manufacturers Association, in addition to Ministry of Trade and Commerce should consider providing trainings on cash management to existing and upcoming entrepreneurs to support them in developing cash management and other necessary business skills.

Ugo and Egbuhuzor, (2022) examined the effect of cash flow management on financial performance: Evidence from the pharmaceutical industry in Nigeria. The ex post facto research design was adopted for the study with a population of ten (10) listed pharmaceutical companies in Nigeria as listed by the Nigerian Exchange Group in 2021. Data were retrieved from the annual reports of the selected listed pharmaceutical companies for the period 2011 to 2020. Multiple regression analysis and the Pairwise Granger Causality tests were used to analyze the data gathered with the aid of E-Views10 statistical software. The study revealed a positive and insignificant effect of operating activities on liquidity. Also, it revealed a positive and insignificant effect of investing activities on liquidity. And finally, it revealed a negative but significant effect of financing activities on the liquidity of listed pharmaceutical companies in Nigeria.

METHODOLOGY

This section focused on the methods and procedures used in collecting and analyzing data for the study (Attih, 2024; Attih et al., 2023; Essien et al., 2023). It consists of research design, population of the study, sample size and sample size determination, sampling technique, sources of data and method of data collection, method of data analysis, model specification and measurement of variables.

Research Design

This study adopted an *ex-post facto* research design. This design was suitable because the data for the analysis had already existed, leaving no room for the researcher to manipulate the variables (dependent and independent) under study.

Population of the Study

According to Eke and Udonde (2023), population is the totality of all elements (human and material) being studied. In this study, the population comprised of seven (7) pharmaceutical firms listed on the floor of the Nigerian Exchange Group from 2014 to 2023. These firms were as follows: Ekocorp PLC, Fidson Healthcare PLC, Glaxo Smithline PLC, May and Baker Nigeria PLC, Morison industries PLC, Neimeth international pharmaceuticals PLC and Pharma-Deko PLC.

Sample Size and Sample Size Determination

The sample size for this study stood at 7 with the aid of Taro Yamane (1967) formula with 95% confidence level. The Taro Yamane formula is given as; $n = \frac{N}{1+N(e)^2}$

Where:

n = sample size required

N = Population

e = significant level = 5%

From the formula above, the sample size of this study is computed as:

$$\boldsymbol{n} = \frac{7}{1+N(e)^2}$$

$$\boldsymbol{n} = \frac{7}{1+7(0.05)^2}$$

$$\boldsymbol{n} = \frac{7}{1+7(0.0025)}$$

$$\boldsymbol{n} = \frac{7}{1+0.0175}$$

$$\boldsymbol{n} = \frac{7}{1.0175}$$

$\boldsymbol{n}$ = 6.88 (approx. 7). The sample size for this study also stood at 7.

Sampling Technique

Due to the relatively small number of listed pharmaceutical firms, complete enumeration also known as census sampling technique was used to obtain the data for the study where all listed pharmaceutical firms on the stock exchange were included in the sample. According to Udonde, Akpan and Awah (2021), complete enumeration is used when the assembled sample has the same proportion of individuals as the entire population.

That means n=N

Where;

n= sample size and N= population

This approach helped to minimize sampling bias and ensure that the results were generalizable to the entire population of listed pharmaceutical firms in Nigeria as a whole.

Sources of Data and Method of Data Collection

The study adopted content analysis to extract data from financial reports, which was then collated using Microsoft Excel software, and utilized panel data methodology to analyze the relationship between cash management practices and market value. A total of seventy (70) pooled observations were obtained, comprising 7 cross-sectional observations for each year and 10 time-series observations for each firm, offering advantages such as more informative data, increased degrees of freedom, enhanced efficiency, and the ability to handle diverse data and examine fixed and random effects on the longitudinal data set.

Method of Data Analysis

The study utilized standardized simple linear regression (Ordinary Least Square-OLS) in Eviews 10.0 to analyze the data. The data met the assumptions of linear regression, including linearity, homoscedasticity, normality, and independence. The Durbin-Watson statistic fell within the acceptable range of 2-3, indicating no serial correlation (Gujarati et al., 2012; Kothari & Gaurav, 2014; Tabachnick & Fidell, 2007). The significance level was set at 5% ($\alpha = 0.05$). The null hypothesis (H_0) was accepted if the p-value was greater than or equal to 0.05, and rejected in favor of the alternative hypothesis (H_1) if the p-value was less than 0.05.

Model Specification and Measurement of Variables

The model for this study was adapted from the study of Idamoyibo, et al. (2021) and modified to suit the scope of this study. It is as presented below;

Mcap = f(cash conversion cycle, operating cashflow, cash ratio)

Therefore; $\boldsymbol{Mcap_{it} = \beta_0 + \beta_1 CCC_{it} + \beta_2 OPC_{it} + \beta_3 CAR_{it} + \mu_{it}}$

Where;

Mcap = Market capitalization of listed pharmaceutical firms in Nigeria

CCC = Cash conversion cycle of listed pharmaceutical firms in Nigeria

OPC = Operating cashflow of listed pharmaceutical firms in Nigeria

CAR = Cash ratio of listed pharmaceutical firms in Nigeria

β_0 = Intercept or regression constant

$\beta_1, \beta_2, \beta_3$ = Regression coefficients

μ = stochastic error term

Measurement/Operationalization of Variables

Table 3.1 captures the measurement of the variables defined in the model above.

Table 3.1: Measurement of Variables

Variables/proxy	Measurement	Source(s)
Market capitalization (Dependent variable)	Current market price per share multiplied by the total number of outstanding shares	Kantudu and Umar (2021), Akenga, (2017).
Cash conversion cycle (Independent variable)	It is measured by subtracting the average trade payables payment period from the addition of average days of inventory and average trade receivables collection period.	Omiete and Wobo, (2020), Aguguon, (2020).
Operating cashflow (Independent variable)	Natural logarithm of net cashflows generated from operating activities.	Omiete and Wobo, (2020)
Cash ratio (Independent variable)	It is measured by dividing total cash and cash equivalents by total current liabilities.	Idamoyibo, et al., (2021).

Source: Researcher's Compilation, (2025).

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

Data Presentation

The data for this study is presented in Table 4.1 (appendix 1). The data comprise a panel data of seventy (70) pooled observations across seven (7) listed pharmaceutical firms in Nigeria for ten (10)-year period (2014-2023). The data include the dependent variable –Market capitalization of listed pharmaceutical firms in Nigeria and the independent variables which were cash conversion cycle (CCC), operating cashflow (OPC) and cash ratio (CAR) of listed pharmaceutical firms in Nigeria

Data Analysis

Various statistical techniques were utilized in the analysis of data. These include descriptive statistics, regression assumption tests and simple linear regression analysis. The results from the Ordinary least squares regression analysis were used in the testing of the research hypotheses as stated in the first section of this work.

1. Descriptive Statistics

This was conducted to understand the behaviour of the data using various statistics including mean, standard deviation, skewness, and kurtosis. The result for the descriptive statistics analysis is as presented in Table 4.1;

Table 4.1 Descriptive statistics results

	MCAP	CCC	OPC	CAR
Mean	23.99638	28.76783	12.02145	0.227674
Median	23.98120	27.25500	11.98609	0.083609
Maximum	27.31468	86.42000	16.90770	1.427600
Minimum	20.31300	11.49000	6.987490	0.004495
Std. Dev.	2.072044	13.39434	2.569484	0.341802
Skewness	-0.339019	1.621644	0.128947	2.096107
Kurtosis	1.952786	7.056701	2.062376	6.505178
Jarque-Bera	4.539481	78.67926	2.758140	87.09439
Probability	0.103339	0.000000	0.251813	0.000000
Sum	1679.747	2013.748	841.5016	15.93715
Sum Sq. Dev.	296.2421	12379.18	455.5551	8.061175
Observations	70	70	70	70

Source: Researcher's Computation (2025).

Table 4.1 shows that Market capitalization (MCap), Cash conversion cycle (CCC), Operating cashflow (OPC) and Cash ratio (CAR) of listed pharmaceutical firms in Nigeria have mean scores of approximately 23.99, 28 days, 12.02 and 0.22 respectively. This indicates the central or average values for these variables from 2014 to 2023. The median values obtained for Market capitalization (MCap), Cash conversion cycle (CCC), Operating cashflow (OPC) and Cash ratio (CAR) of listed pharmaceutical firms in Nigeria were approximately 23.98, 27days, 11.98 and 0.08 respectively. These constitute the middle values for the distributions of these variables under the period covered in this study (2014-2023).

In terms of the level of variability and dispersion in the distribution of these variables, the standard deviations obtained for the variables- Market capitalization (MCap), Cash conversion cycle (CCC), Operating cashflow (OPC) and Cash ratio (CAR) of listed pharmaceutical firms in Nigeria were 2.072, 13.39, 2.56 and 0.34 respectively. This indicates varying levels of variability in the distribution with cash conversion cycle indicating high variations in the distributions. Similarly, the skewness values obtained for Market capitalization (MCap), Cash conversion cycle (CCC), Operating cashflow (OPC) and Cash ratio (CAR) of listed pharmaceutical firms in Nigeria were -0.339, 1.62, 0.12 and 2.09. This quantifies the asymmetry of the distributions.

In addition, the Kurtosis values obtained for Market capitalization (MCap), Cash conversion cycle (CCC), Operating cashflow (OPC) and Cash ratio (CAR) of listed pharmaceutical firms in Nigeria were given as approximately 2, 7, 2 and 6 respectively. Since the values of the

kurtosis are greater than zero (0), it indicates a leptokurtic distribution, hence the presence of outliers in the data.

2. Model Evaluation

The suitability of the data was assessed through coefficient and residuals diagnostics. These include normality test, multicollinearity test and heteroscedasticity test.

1. Normality test

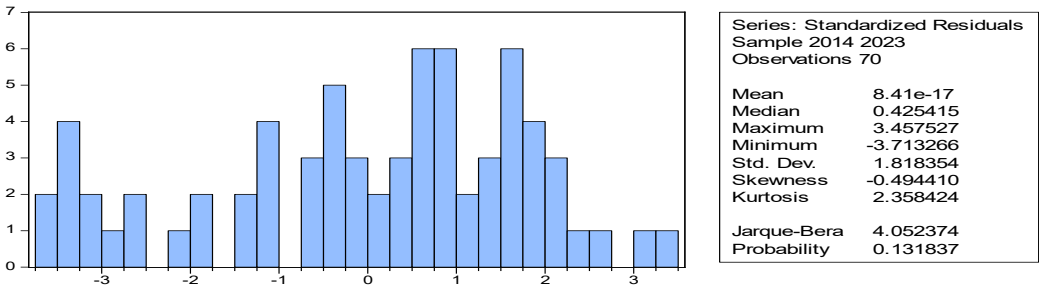


Fig. 4.1 Jarque-Bera Normality test results

Source: E-views 10.0 Output in appendix II

A significant Jarque-Bera test result implies that the data do not follow a normal distribution. On the other hand, a non-significant result indicates that there is insufficient evidence to reject the assumption of normality. If the p-value associated with the Jarque-Bera test is below a predetermined significance level ($p<0.05$), then we reject the null hypothesis and conclude that the data do not follow a normal distribution. With a p-value of 0.131837, there is sufficient evidence to conclude that the data were normally distributed.

2. Multicollinearity Test

In examining the association among the variables, the study employed the Spearman Rank Correlation Coefficient (correlation matrix), and the results are presented in the table below**.**

Table 4.2 Spearman's Rank Correlation Matrix

	MCAP	CCC	OPC	CAR
MCAP	1.000000	0.020033	0.021468	0.015239
CCC	0.020033	1.000000	0.135474	0.108739
OPC	0.021468	0.135474	1.000000	0.217129
CASHR	0.015239	0.108739	0.217129	1.000000

Source: E-views 10.0 Output, (2025).

The correlation analysis showed that all independent variables- Cash conversion cycle (CCC), Operating cashflow (OPC) and Cash ratio (CAR) of listed pharmaceutical firms in Nigeria over

the period under study have coefficients lesser than 0.80 respectively confirming absence of multicollinearity issues.

3. Heteroscedasticity test

Table 4.3 Cross-section dependence/ Heteroscedasticity test

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	24.95542	21	0.2491
Pesaran scaled LM	-0.469789		0.6385
Pesaran CD	1.453114		0.1462

Source: E-views 10.0 Output (2025).

The statistics and probability value associated with the Breusch-Pagan LM test otherwise known as the Breusch-Pagan Godfrey test help determine whether there is evidence of heteroscedasticity in the regression model. A low p-value ($p<0.05$) suggests evidence against the null hypothesis in favour of the alternate hypothesis which indicates the presence of heteroscedasticity in the regression model. With a p-value of 0.2491, there is sufficient evidence accept the null hypothesis, thus, conclude that the predictor variables were homoscedastic.

3. Autocorrelation

Autocorrelation tests examine whether the residuals are independently distributed or if there is a systematic pattern of dependence. The Durbin-Watson statistic is commonly used to test for autocorrelation, with values close to 2 indicating no significant autocorrelation. The Durbin-Watson statistic value of 1.657868 suggests a mild positive autocorrelation present in the residuals of the regression model.

Test of Hypotheses

Each of the hypotheses in this study were tested based on the result obtained from the panel multiple regression analysis. The result that relates to these hypotheses is summarized in table 4.4 below;

Table 4.4 Panel Multiple Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	25.14526	0.666493	37.72770	0.0000

CCC	0.003378	0.016735	0.201880	0.8406
OPC	0.258792	0.127805	2.024891	0.0469
CASHR	2.741821	0.773832	3.543173	0.0007

R-squared	0.229879	Mean dependent var	23.99638
Adjusted R-squared	0.194873	S.D. dependent var	2.072044
S.E. of regression	1.859221	Akaike info criterion	4.133637
Sum squared resid	228.1424	Schwarz criterion	4.262123
Log likelihood	-140.6773	Hannan-Quinn criter.	4.184673
F-statistic	6.566932	Durbin-Watson stat	1.657868
Prob(F-statistic)	0.000594		

Source: Researcher's computation using E-views 10.0, (2025).

The multiple regression line is as written below:

$$MCAP = 25.14525641 + 0.00337849993109*CCC + 0.258792466361*OPC + 2.74182099351*CASHR + \mu$$

Considering the regression results above, when the independent variables- Cash conversion cycle (CCC), Operating cashflow (OPC) and Cash ratio (CAR) of listed pharmaceutical firms in Nigeria are held constant (equal Zero), the dependent variable– market capitalization (MCap) increased at a constant average of approximately 25.145% over the years. However, a one percent (1%) rise in Cash conversion cycle (CCC), Operating cashflow (OPC) and Cash ratio (CAR) increases market capitalization by 0.0033%, 0.2587% and 2.7418% respectively.

Hypotheses One

H_{01}: There is no significant relationship between cash conversion cycle and market capitalization (Mcap) of listed pharmaceutical firms in Nigeria.

In order to test whether the variations in market capitalization of listed pharmaceutical firms in Nigeria caused by cash conversion cycle is significant. The T-test was carried out at .05 significance level with Ttab of 1.995 given at $T_{0.05,7}$. From the result above, the Tcal of 0.20188 is less than Ttab given at $T_{0.05,7}$. Hence, the null hypothesis which states that there is no significant relationship between cash conversion cycle and market capitalization of listed pharmaceutical firms in Nigeria holds, thus accepted, and the alternative hypothesis rejected. The null hypothesis is further accepted given that at $T_{0.05,7}$, its probability value (p-value = 0.8406) is greater than 0.05.

Hypothesis Two

H_{02}: There is no significant relationship between operating cashflow and market capitalization (Mcap) of listed pharmaceutical firms in Nigeria

By way of testing whether the variations in market capitalization of listed pharmaceutical firms in Nigeria caused by operating cashflow is significant, the T-test was carried out at .05 significance level with Ttab of 1.995 given at $T_{0.05,7}$. However, the Tcal of 2.0248 is greater than Ttab given at $T_{0.05,7}$. Hence, the null hypothesis which states that there is no significant relationship between operating cashflow and market capitalization of listed pharmaceutical firms in Nigeria fails to hold, thus rejected, and the alternative hypothesis accepted. The null hypothesis is further rejected given that at $T_{0.05,7}$, its probability value (p-value = 0.0469) is less than 0.05.

Hypothesis three

H_{03}: There is no significant relationship between cash ratio and market capitalization (Mcap) of listed pharmaceutical firms in Nigeria

Regarding cash ratio, the T-test was also carried out at .05 significance level with Ttab of 1.995 given at $T_{0.05,7}$. Invariably, the Tcal of 3.5431 is greater than Ttab given at $T_{0.05,7}$. Hence, the null hypothesis which states that there is no significant relationship between cash ratio and market capitalization of listed pharmaceutical firms in Nigeria fails to hold, thus rejected, and the alternative hypothesis accepted. The null hypothesis is further rejected given that at $T_{0.05,7}$, its probability value (p-value = 0.0007) is less than 0.05.

Discussion of Findings

Cash Conversion Cycle and Market Capitalization (Mcap) of Listed Pharmaceutical Firms in Nigeria.

The finding that cash conversion cycle has a non-significant positive relationship with market capitalization of listed pharmaceutical firms in Nigeria suggests that the length of time it takes for a firm to sell its inventory, collect its receivables, and pay its payables does not have a significant impact on its market value. This result is surprising, given the importance of efficient cash management in maintaining a firm's liquidity and profitability. Furthermore, the non-significant positive relationship may indicate that investors and analysts do not consider the cash conversion cycle to be a key performance indicator for pharmaceutical firms in Nigeria. This may be due to the fact that the cash conversion cycle is not a direct measure of a firm's profitability or growth prospects, which are typically the primary drivers of market value.

The non-significant positive relationship between cash conversion cycle and market capitalization may also be attributed to the fact that pharmaceutical firms in Nigeria may have different cash management priorities. For instance, firms may prioritize investing in research and development, expanding their product portfolio, or enhancing their distribution networks over optimizing their cash conversion cycle. Additionally, the non-significant positive relationship may indicate that the cash conversion cycle is not a reliable predictor of market value for pharmaceutical firms in Nigeria. Furthermore, an insignificant relationship was found to exist between cash conversion cycle and financial performance/market value, as indicated by this study, Ugo and Egbuhuzor, (2022), and Liman and Mohammed (2018), who reported

insignificant relationships between operating activities, operating cash flow, and financial performance in listed pharmaceutical companies and conglomerates in Nigeria.

Operating Cashflow and Market Capitalization (Mcap) of Listed Pharmaceutical Firms in Nigeria.

The positive relationship between operating cash flow and market capitalization of listed pharmaceutical firms in Nigeria suggests that investors place a high value on companies with strong cash generation capabilities. This is consistent with the idea that operating cash flow is a key driver of a company's ability to invest in growth opportunities, pay dividends, and reduce debt. In the context of the Nigerian pharmaceutical industry, this finding suggests that companies with strong operating cash flow are more likely to attract investors and achieve higher market capitalization.

The findings of this study align with the extant literature that emphasizes the significant positive relationship between operating cash flow and financial performance. Studies such as Kihara and James (2023), Ugo and Egbuhuzor (2022), Appah et al. (2021), Musah and Kong (2019), Nangih et al., (2020), and Obiora et al., (2022) have all reported similar findings, highlighting the importance of effective cash flow management in driving financial performance. These studies provide a solid foundation for understanding the relationship between operating cash flow and financial performance, and the current study's findings contribute to this body of knowledge by providing evidence from the Nigerian pharmaceutical industry.

Cash Ratio and Market Capitalization (Mcap) of Listed Pharmaceutical Firms in Nigeria.

The finding that cash ratio has a significant positive relationship with market capitalization of listed pharmaceutical firms in Nigeria suggests that firms with higher cash ratios tend to have higher market values. This result is consistent with the idea that cash is a valuable resource that can be used to invest in growth opportunities, pay dividends, and reduce debt. A higher cash ratio may also indicate that a firm has a strong liquidity position, which can reduce its risk and increase its attractiveness to investors. Furthermore, the significant positive relationship may indicate that investors and analysts view high cash ratios as a sign of financial strength and stability, which could positively impact market value.

The significant positive relationship between cash ratio and market capitalization may also be attributed to the fact that pharmaceutical firms in Nigeria may be prioritizing cash management as a key driver of market value. For instance, firms may be maintaining high levels of cash and other liquid assets in order to invest in research and development, expand their product portfolio, or enhance their distribution networks. Additionally, a high cash ratio may also indicate that a firm is able to generate strong cash flows from its operations, which could increase its market value. The existing literature revealed that a significant positive relationship existed between cash ratio and financial performance/market value, as evidenced by this study and Eton et al., (2025), who demonstrated that quick ratio had a positive effect on profitability in the Pakistani automobile industry.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary of the Findings

This study examined the relationship between relationship between cash management practices and market value of listed pharmaceutical firms in Nigeria. The study covered ten (10)-year period with particular emphasis on cash conversion cycle, current ratio and cash ratio. Market capitalization (Mcap) however represented the dependent variable (Market value). Below is a summary of findings gathered through a panel simple linear regression analysis.

1. Cash conversion cycle has a non-significant positive relationship (Coeff. = 0.003378 {0.8406}) with the market capitalization of listed pharmaceutical firms in Nigeria.
2. Operating cashflow has a significant positive relationship (Coeff. = 0.257892 {0.0469}) with the market capitalization of listed pharmaceutical firms in Nigeria.
3. Cash ratio has a significant positive relationship (Coeff. = 2.741821 {0.0007}) with market capitalization of listed pharmaceutical firms in Nigeria.

Conclusion

This study examined the relationship between cash management practices and market value of listed pharmaceutical firms in Nigeria. The study findings imply that effective cash management practices, particularly cash ratio, can enhance the market value of pharmaceutical firms in Nigeria. The study's findings have implications for pharmaceutical firms, investors, and policymakers. Pharmaceutical firms can improve their market value by optimizing their cash management practices, particularly by maintaining an optimal cash ratio. Investors can also make informed decisions by considering the cash management practices of pharmaceutical firms.

Recommendations

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

1. Based on the finding that cash conversion cycle has a non-significant positive relationship with market capitalization, pharmaceutical firms in Nigeria should focus on optimizing their working capital management practices to reduce their cash conversion cycle, even though it may not have a significant impact on market capitalization.
2. Listed pharmaceutical firms in Nigeria prioritize the management of their operating cash flow. This can be achieved by implementing effective working capital management strategies, such as optimizing inventory levels, managing accounts receivable and payable, and investing in cash-generating assets.
3. Considering the significant positive relationship between cash ratio and market capitalization, pharmaceutical firms in Nigeria should prioritize maintaining a healthy cash ratio to enhance their market value and attract investors.

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