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Evaluating the influence of working capital management on corporate performance

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Abstract

Effective working capital management involves strategically managing short-term assets and liabilities to maintain financial stability. This includes managing cash, inventory, accounts receivable, and accounts payable. Optimizing cash conversion, timely payment collection, avoiding excess stock, and managing accounts payable ensure liquidity, minimize financing costs, and improve profitability. Studying the impact of working capital management on the financial performance of consumer goods firms is crucial, as it provides insights into how these practices can enhance profitability and support sustainable growth in a competitive sector. Understanding these dynamics helps firms refine their strategies to achieve better financial health and operational efficiency. This study investigates the impact of working capital management on the financial performance of listed consumer goods firms in Nigeria, highlighting the significance of optimizing cash flow and balancing current assets and liabilities. By focusing on the cash conversion cycle, accounts receivable turnover, and inventory turnover, the research evaluates their effects on return on assets (ROA) using ordinary least square regression (OLS) analysis. The findings aim to provide insights into how strategic management of working capital components can enhance profitability and contribute to sustainable business growth. By analyzing financial data from listed companies, the study offers empirical evidence that effective working capital management through maintaining optimal levels of receivables, inventory, and payables supports smoother operations, reduces financing costs, and increases ROA. This research underscores the strategic importance of working capital management in achieving financial stability and operational efficiency, with implications for both practitioners and academics in the Nigerian context.

Keywords: Working Capital Management; Financial Performance; Manufacturing firm; Cash conversion cycle; Account Receivables turnover

1. Introduction

The financial health and operational efficiency of manufacturing firms are critically dependent on effective working capital management. Working capital, representing the difference between a firm's current assets and current liabilities, serves as the lifeblood of day-to-day business operations. For manufacturing firms, particularly those in the consumer goods sector, the ability to manage working capital effectively can mean the difference between sustained profitability and financial distress. This study delves into the impact of working capital management on the financial performance of listed consumer goods firms in Nigeria, underscoring the importance of optimizing cash flow and maintaining a balance between current assets and liabilities.

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A company's sustainability and growth depend on the outcome of financing and investing decisions, which managers attempt to accomplish as the strategic goals of maximizing firm value and achieving profitability [1]. The management also needs to establish clear policies regarding the size of investment to determine the amount of required funding [2]. The aggressive policy is based on small investments in low-circulating current assets. This will lead to a reduction in the amount of investment in net capital, and then, higher return, due to lower investment in less cost-effective part of the assets, and higher financial risk due to the firm's lower liquidity [3]. As for the conservative policy, it is based on large investments in current assets, focusing on future sales and working to reduce the risk of liquidity and stock deficit, where this policy leads to lower returns. The risk and expected return of the moderate policy, meanwhile, are between the two previous types. Each investment policy has its associated cost and benefit, and each affects the profitability of the company differently. Therefore, managers should choose an appropriate investment policy to achieve the firm's goals. Some authors believe that investing in working capital is one of the factors that can help firms to improve their profitability [4].

Working capital management is a crucial aspect of financial management that directly impacts the operational efficiency and financial stability of businesses. It involves managing the liquidity components of a company's short-term assets and liabilities, including cash, accounts receivable, inventory, and accounts payable [5] [6]. The primary goal is to optimize the cash conversion cycle, ensuring that capital is not unnecessarily tied up in current assets [7]. Effective working capital management reduces the risk of liquidity issues, minimizes financing costs, and enhances profitability. Various approaches to working capital policy—such as defensive, aggressive, and conservative strategies—offer frameworks for balancing liquidity and profitability [8]. Key measures like inventory turnover and accounts receivable turnover are vital indicators of a firm's efficiency in managing its stock and credit policies, respectively, while the cash conversion cycle reflects how quickly a firm can turn its resources into cash flows from sales [9] [10] [11].

In the context of financial performance, efficient working capital management is linked to better profitability, liquidity, and leverage [12]. This study focuses on the consumer goods sector in Nigeria, examining how strategic management of working capital components influences return on assets (ROA). By analyzing data from listed firms and employing ordinary least square regression (OLS) analysis, the research aims to provide empirical evidence on the relationship between working capital management and financial performance. Understanding this relationship is essential for firms to refine their financial strategies, improve operational efficiency, and achieve sustainable growth. This study contributes to the broader literature on financial management by highlighting the importance of effective working capital practices in enhancing organizational performance, with implications for both practitioners and academics [13][13][15].

Empirical studies have highlighted the significant impact of working capital management on firm performance. Nastiti et al [16] examined 136 listed manufacturing firms in Indonesia and found that working capital is a significant determinant of profitability, with an indirect effect on sustainable growth through profitability. Kaushik and Chauhan [17] analyzed 211 Indian firms and noted that while accounts receivable days and inventory days negatively affect financial performance, accounts payable days have a positive effect. Similarly, Roni et al [18] identified that inventory turnover and asset structure positively influence profitability in Indonesian state-owned enterprises, though liquidity and cash turnover do not have a significant impact. Jana [19] studied Indian FMCG firms and found that efficient working capital management positively affects profitability, emphasizing its critical role in enhancing firm performance. Raheman and Nasr [20] also observed a negative relationship between profitability and working capital management in their analysis of 94 firms listed on the Karachi Stock Exchange.

The significance of this study lies in its focus on the consumer goods sector in Nigeria, a vital industry that caters to the daily needs of the population and contributes substantially to the nation's economy. By examining financial data from listed companies over a specific period, this research employs ordinary least square regression (OLS) analysis to explore the relationship between working capital management and financial performance, particularly return on assets (ROA). ROA is a key profitability indicator that measures how effectively a firm utilizes its assets to generate earnings.

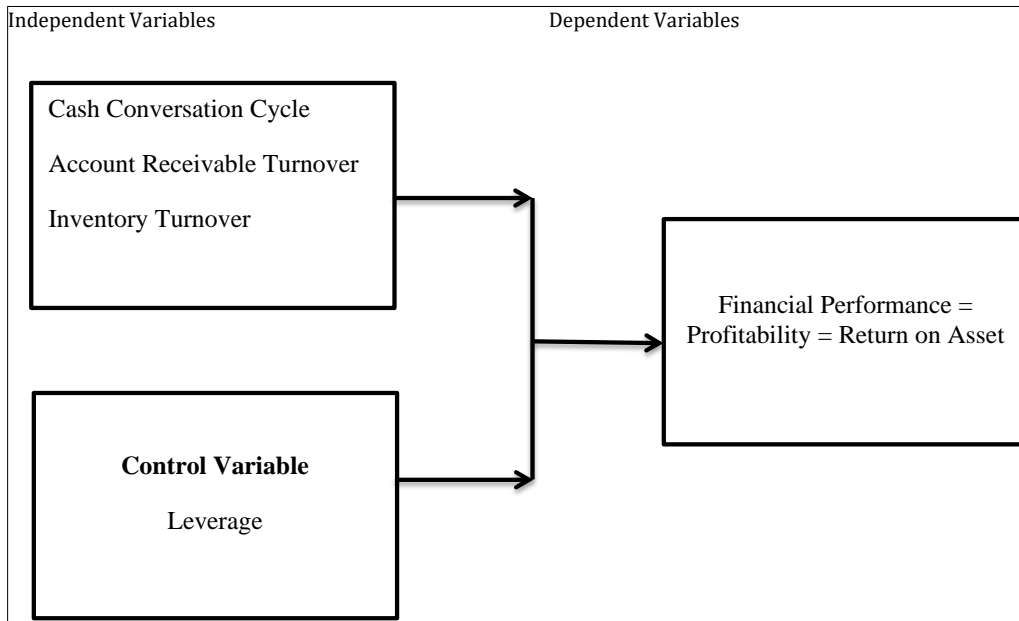
Specifically, this research will test the following research hypotheses.

- Ho: Cash conversion cycle has no significant effect on financial performance of listed consumer goods firms in Nigeria.
- Ho: Account receivables turnover has no significant effect on financial of listed consumer goods firms in Nigeria.
- Ho: Inventory turnover has no significant effect on financial performance of listed consumer goods firms in Nigeria.

1.1. Conceptual Framework

The conceptual model of this study is based on the research objectives. The dependent variable is return on asset (ROA) variable which represents financial performance. The independent variables are the working capital management variable, which include cash conversion cycle, account receivables turnover and inventory turnover are variables that explain working capital management.

1.1.1. Conceptual Model



Source: Researchers Conceptualization, 2024

Figure 1 Concept model

The diagram above represents the approach taken by this study. The conceptual model of this research work is based on the research objectives. The model reflects the relationship between the independent variables and the dependent variable and the influence on the control variable.

1.1.2. Independent Variables

These are the variables impacting on the main research problem. They are called independents because they are the variables that affect the dependent variable. In this study, the independent variables are Cash Conversation Cycle, Account Receivable Turnover and Inventory Turnover.

1.1.3. Dependent Variable

This is the primary research issue being examined, which is influenced by other variables. The dependent variable reacts to the independent variable, as the latter significantly impacts the former. In this study, the dependent variable is the return on assets.

1.2. Conceptual Framework

1.2.1. Consumer Goods Manufacturing Firms and Going Concern

Consumer goods manufacturing involves transforming raw materials or work-in-progress items into finished products, a process known as value addition. This added value is reflected in the price of the finished goods. The consumer goods manufacturing sector has continuously evolved into a more integrated concept at all levels, from machinery and production systems to overall business operations. [21]. This evolution is increasingly important as goods are being mass produced. Mass production is a repetitive flow wherein large quantities are produced quickly with more precision often using assembly lines or automatic technology. This drives down prices makes consumer goods affordable to a significant share of the market. The consumer goods manufacturing sector is comprised of these activities: Food, Beverages amongst others. A study by Adenikinju and Chete [22] revealed that the manufacturing sector is characterized by assembly-based activities, domestic production of basic commodities and importation of intermediary

inputs. Production subcontracting is another activity peculiar to the Nigeria manufacturing sector and the major denominator for such is to reduce the cost of production that arises from producing in the country Ajayi, [23]. In 2020, the manufacturing sector contributed thirteen percent to the country's Gross Domestic Product (GDP). The population density is one of the key drivers of the manufacturing sector in Nigeria (KPMG; Sector Report, 2014)

Going Concern is an accounting concept that denoted a company has the resources needed to continue operating indefinitely until it provides evidence to the contrary. It is the ability to be financially stable enough to stay afloat. A firm's financial condition can indicate the period it can remain in operation [24]. Adedokun and Fasoye [25] noted that distortion in cash flows, jeopardized compliance process and supply chain disruption are areas in the manufacturing sector that were significantly hit by the Covid-19. Padachi [26] identifies internal and external factors that determine firm success or failure. The external factors are financing, economic conditions, government regulations and competition. On the other hand, the internal factors are managerial skills, workforce, accounting systems and financial management practices. However, the major problem facing the Nigerian manufacturing sector is poor management of working capital [27].

2. Research method

The research design for this study is the ex-post facto which is a method of finding out possible antecedents of event that have happened but cannot be manipulated by the investigator. Ex-post facto investigation seeks to reveal possible relationships by observing an existing condition or situation and searching back time for plausible contributing factor [28]. This design allows the researcher to describe observed events using the data derived from such observation to determine the relationship between working capital management and financial performance. The population for this study, consumer goods firms listed in the Nigeria stock exchange, covering a period between 2010-2021. The companies are Nestle Nigeria Plc, Nigerian Breweries Plc, Dangote Sugar Refinery Plc, Flour Mills of Nigeria Plc, PZ Cussons Nigeria Plc, Unilever Nigeria Plc, Cadbury Nigeria Plc, Guinness Nigeria Plc, International Breweries Plc and Champion Breweries Plc.

2.1. Model Specification

The model for this study is to evaluate the impact of working capital management on financial performance. Previous research has utilized various metrics for assessing the efficiency of working capital management, as well as working capital investment and financing policies, and financial performance. Based on this foundation, the simple regression model is specified as follows:

$$ROA = f (INVT + ART + CCC)$$

The econometric model of equation 1 is:

$$ROA_{it} = \beta_0 + \beta_1 INVT_{it} + \beta_2 ART_{it} + \beta_3 CCC_{it} + \beta_4 LEV_{it} + \mu_i \quad (1)$$

Where,

ROA_{it} = Return on assets of company i at time t

ART_{it} = Account receivable turnover of company i at time t

$INVT_{it}$ = Inventory turnover of company i at time t

CCC_{it} = Cash conversion cycle of company i at time t

LEV_{it} = Leverage of company i at time t

β_0 = Intercept of the model

$\beta_1 - \beta_4$ = Parameters of the regression coefficients

μ_i = Stochastic error term

2.2. Data Analysis Technique

The economic technique employed in the study was the ordinary least square regression (OLS). This is because the OLS computational procedure is a simple best linear estimator among all unbiased estimation, efficient and shown to have the smallest (minimum variance) thus, it become the best linear unbiased estimator in the classical linear regression model. Basic assumptions of the OLS are related to the forms of the relationship among the distribution of the random variance (μ_i).

3. Results and discussion

3.1. Descriptive Statistics on Data of the Study

Descriptive statistics were obtained for all variables in this study. Data from the firm's audited yearly reports was used to construct descriptive statistics such as mean and standard deviations, which were used to determine the sample attributes of the enterprises under examination.

Table 1 Descriptive Statistic

	CCC	ART	INVT	ROA	LEV
Mean	116.541	56.314	93.377	0.036	0.494
Median	121.12	236.34	248.90	0.002	0.062
Maximum	913,167	773.890	799.131	0.312	0.971
Minimum	-337.437	-215.863	0.044	-0.121	0.018
Std. Dev.	115.143	70.934	0.128	0.454	0.195
Skewness	0.355324	-0.090421	0.259785	0.585221	2.101968
Kurtosis	1.682156	1.799527	1.257821	2.372383	6.094624
Jarque-Bera	2.615355	1.719478	3.855995	1.616851	45.41630
Probability	0.0000	0.000000	0.000000	0.000000	0.000000
Sum	116.9350	88.06620	160.9054	143.023	151.8204
Sum Sq. Dev.	154.02617	195.57214	673.3300	145.3451	571.094
Observations	120	120	120	120	120

Source: Eviews output.

The descriptive statistic on table shows that cash conversion cycle has a mean value of 116.541 days, while the maximum and minimum values are 913 and 337 days respectively. Account receivable turnover has a mean value of 56.3 days, while the maximum and minimum values are 774 and 215 days respectively. Inventory turnover has a mean value of days, while the maximum and minimum values are 799 and 0.04 days respectively. It shows that firms must take 56.3 days to obtain their money from the clients, and 93.3 days to buy raw materials, manufacture and sell the inventories. Return on asset has a mean value of 3.6% while the maximum and minimum values are 31.2% and 12.1% respectively. Leverage has a mean value of 0.494 while the maximum and minimum values are 0.971 and 0.018 respectively

Table 2 Augmented Dicky-Fuller unit root test results summary

Variables	ADF- Test statistic at first difference	Critical Values	Order of integration
ROA	-3.870531	1% -3.615588 5% -2.941145 10% -2.609066	1(0)
ART	-3.28067	1% -3.632900 5% -2.948404 10% -2.612874	1(0)
INVT	-3.245522	1% -2.627238 5% -1.949856 10% -1.611469	1(1)

INVS	-2.149320	1% -3.632900 5% -1.949856 10% -1.611469	1(1)
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Source: Author's compilation from ADF Unit Test Results

The summary results of the ADF unit root tests presented above indicate that the variables are individually stationary and stable. At this level, all t-statistics are significant at the 5 percent level. Additionally, the Durbin-Watson values, ranging between -2.1 and -3.9, suggest an absence of autocorrelation.

3.2. Effect of cash conversion cycle on financial performance of the listed consumer goods firms in Nigeria.

It presents the results of the analysis on the impact of the cash conversion cycle on the financial performance of listed consumer goods firms in Nigeria.

Table 3 Regression Result and Discussion of Findings

Dependent Variable: ROA				
Method: Least Squares				
Date: 06/12/23 Time: 16:05				
Sample: 2010 2021				
Included observations: 120				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CCC	-0.00004	0.00720	-0.00410	0.0000
LEV	-0.26610	0.02512	-0.6632	0.0000
C	-0.21200	0.06101	-8.35203	0.0000
R-squared	0.22056	Mean dependent var		2.176250
Adjusted R-squared	0.275096	S.D. dependent var		0.414556
S.E. of regression	0.369694	Akaike info criterion		0.979282
Sum squared resid	3.280170	Schwarz criterion		0.169597
Log likelihood	9.709950	Hannan-Quinn criter.		0.037463
F-statistic	5.27901	Durbin-Watson stat		1.575109
Prob(F-statistic)	0.000000			

The results in table above show the effect of cash conversion cycle on financial performance has a coefficient of 0.00004. It means that if the cash conversion cycle decreases by 1 unit, the average value of the return on asset will increase respectively by 0 0.00004 units. This shows that the shorter the cash conversion cycle, the higher the financial performance of a business. The results further show that r-squared is 0.221 while adjusted r-squared is 0.275 indicating that 27.5 percent of changes. Also, from the table, we see that cash conversion cycle has a t-statistic of -0.00410 with a probability of 0.00, which means that the impact of cash conversion cycle on the firm's financial performance is negative and statistically significant. Thus, the above results accept the hypothesis Cash conversion cycle has a negative effect on financial performance of listed

4. Conclusion

The primary objective of the study is to investigate the impact of working capital management efficiency and financial performance, as well as the effect of working capital investment on the consumer goods firms listed on the NSE. Working capital management focuses on promoting satisfying liquidity, profitability and shareholders' value. An improper

management of component of working capital will result to the difficulties in firm's continued operation and however will also affect the market value of such firm.

Recommendations

Based on the findings of this study, the following recommendations were made

- Managers should implement optimal strategies to effectively manage working capital. This approach can help companies achieve greater profitability.
- Additionally, increasing accounts receivable days and inventory turnover days, while reducing accounts payable days and the cash conversion cycle, are essential for achieving overall earnings efficiency and effective production.
- Firms should consider relaxing their credit and collection policies to boost sales and enhance financial performance. To achieve this, firms need to compare their average collection period with the industry average and investigate any significant differences.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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