FIRM CHARACTERISTICS AND WORKING CAPITAL MANAGEMENT OF LISTED CONSUMER GOODS COMPANIES IN NIGERIA

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Abstract
Working capital management plays an important role in success and failure of firm. The main objective of the study is to examine the impact of firm characteristics on working capital management of listed consumer goods companies in Nigeria. An ex-post facto research design was adopted for the study. The target population is twenty-one (21) consumer goods companies in Nigeria. The study sampled sixteen (16) consumer goods companies for a period of 11 years (2011-2021). Multiple regression technique was employed to analyze the data using STATA 14. The result reveals that block holder ownership, profitability and firm size have significant positive relationship with cash conversion cycle. Accordingly, the study recommends that consumer goods companies and other allied companies should take measures to improve their profitability by growing their revenues and curtailing their expenses so as to generate sufficient internal resources. The study also recommends that consumer goods companies and other related companies should take advantage of their size and manage accordingly their working capital.
Keywords: Working Capital Management, Profitability, Firm Characteristics, Block holders Ownership, Firm Size.

Introduction

The effective management of working capital is paramount for the success or failure of companies, as demonstrated by numerous studies exploring the factors influencing working capital. Previous research, such as that by Hamad and Tammam (2017) and Muhammad and Umair (2017), has primarily focused on the correlation between Working Capital Management (WCM) and overall business performance. However, there remains a dearth of comprehensive studies investigating factors beyond profitability that impact WCM, particularly within the context of consumer goods companies in Nigeria. Notably, only a limited number of studies, such as Haddad and Lotfaliei (2019), have explored the influence of firm characteristics on WCM, revealing significant variations in the impacts of debt, size, and liquidity ratios.

The significance of working capital management in determining organizational success is underscored by Miller and Orr (2020). Despite its critical role, the working capital of numerous consumer goods companies has exhibited negative trends (Makau, 2019), prompting a need for a nuanced exploration of the sector's practical challenges. Existing literature presents inconsistent findings regarding the impact of company characteristics, including firm size, asset tangibility, profitability, and leverage, on working capital financing. While some studies (e.g., Kasozi, 2017; Sharma and Kumar, 2016; Olatunji and Buyide, 2020) identify a positive correlation, others (e.g., Abbas, 2016; Salehi et al., 2019; Eysimkele and Koori, 2019) report a negative relationship.

Critically, identified gaps in prior research, such as conceptual, methodological, and logical shortcomings, underscore the need for the current study. For instance, Eysimkele and Koori

(2019) concentrated solely on debt financing, leaving gaps in the examination of broader characteristics. Bejan et al. (2017) faced methodological challenges with data collection timeframe, and Minnema and Andersson (2018) exhibited data limitations up to 2016-2017. Therefore, this study seeks to address these gaps by collecting data from 2011 to 2021, reflecting the current state of companies and ensuring relevance in the evolving business landscape. Hence, this study examines the effect of Firm characteristics (Block ownership, Profitability and Firms size) on working capital management of listed consumer goods companies in Nigeria.

Literature Review

Working Capital Management

Working capital, according to Manos et al, (2023) represents the circulating capital of an organization, which comprises of inventory of trading goods, raw materials, work-in-progress, stationery, account receivables, other receivables, bank balances, cash, marketable securities and other short term claims on third parties. Sibindi and Mandipa (2022) describe working capital of a firm as the firm's capital which is used to finance short term or current assets like cash, inventory, receivables, and debtors. It is the amount of money which is required to cover the cost of operating the enterprise. Mandipa and Sibindi (2022) also argued that working capital is that proportion of a company's total capital which is employed in its short term operations.

The manner in which working capital is managed has a significant impact on both cash flow and profitability of enterprises (Abdulnafea et al, 2022). They further posit that the longer the time span between the expenditure incurred in the purchase of raw materials or merchandise and the collection of sales proceeds, the larger the investment in working capital. According to Mandipa and Sibindi (2022), a long conversion cycle will lead to higher sales volume and therefore increase profits but will also decrease profits when the cost of investment in working capital rises faster than the benefits of holding more inventories and granting more trade credit to buyers.

Profitability (ROA) and Working Capital Management

Firm performance characteristics for the purpose of this study are profitability and sales growth. Working capital and profitability have double-edge relationships. On the one hand, more profitability makes firms stronger to negotiate with both suppliers and customers, and firms can use these competitive advantages to improve their liquidity (Farida & Setiawan, 2022). On the other hand, working capital has important effects on profitability. More investment in working capital means more sources engaged and make more opportunity cost for firms (Naz, et al, 2022). Inefficient working capital management might have negative effect on the company profitability, for instance, while a company with long cash conversion cycle might have higher sales because of long credit term given to trade credit customers, high cost of investment in working capital might decrease profitability as well (Naz, et al, 2022).

The study by Haddad and Lotfaliei, (2019) on the effect of profitability on working capital demands discovered a negative connection in between profitability and equity. Nonetheless, the research noted that productivity was favorably related to debts, especially the short-term debts. The research concluded that companies need to fund the majority of their operations utilizing short-term debts because it has a favorable effect on profitability. Therefore, profitability is positively related to working capital demands. Nonetheless, the research was performed in Four Asian Tiger economies, hence provides a contextual void. Kiiru, Kirori, and Omurwa, (2019) sought to examine the impact of profitability on debts from the Portuguese companies. The sample size was 2,329 small enterprises. Research was conducted from 2007 to 2011. The outcomes exposed a considerable unfavorable

relationship between profitability and debts. It indicates that as profitability rises, companies tend to use more equity to fund their functions. Nevertheless, the research was carried out in Portugal and thus a contextual gap.

Firm Structural Characteristic (Firm Size) and Working Capital Management

Firm structural characteristics for the purpose of this study are firm size. Firm size has effect on working capital management in the sense that larger firms have better access to capital markets and have larger capacity to extend more trade credits that enable them to have more investment in working capital as compared to smaller firms (Boisjoly, et al 2020). Also, large companies can negotiate with its supplier for quantity discount and longer payment term. Berger et al., (2001) argue that, the cost of investment in working capital would be lower for larger firms compared to smaller one since larger corporations have lower information asymmetry and thus lower cost of external financing. Firm size is measured some time as natural logarithm of total assets (Sibindi & Mandipa 2022) and sometimes as natural logarithm of total sales (Boisjoly, et al 2020). Wahome (2018) sought to examine the impact of company size on capital financing decisions of Insurance firms in Kenya. The research population included all the registered insurance companies that have actually functioned in the recent past. The analysis was done utilizing the statistical package (EVIEWS version 8). The research concluded that firm size is positively and significantly related to the capital structure. However, research was conducted in a financial institution (insurance) and, therefore, a contextual gap. Moreover, Abbas (2016) maintained that company size does not determine the working capital requirement. The exploration noted that the company size is not factored to be vital in determining the operational capital requirement in some cases. Other segments such as strategies adopted can influence the working capital requirements. Nevertheless, the research was performed in Norway and thus presents a contextual gap.

Ownership Structure (Block holder ownership) and Working Capital Management

Managerial Ownership affect working capital management of a company as argue by Ashar, (2022) that when management obtains an equity stake in the firm, higher managerial self-interests in long term sustainability of the company may induce managers to increase the firm's working capital policies which translate to effective working capital management. Monitoring by outside shareholders, especially the block holders may likely induce management in making firm’s decisions of which working capital is an integral part (Ashar, 2022). Therefore, block holders ownership is another attribute that affect working capital management of a firm. Block holders ownership is measured as percentage of equity ownership by block holders, that is, those with more than 5 percent ownership (Kusnadi, 2003). Palombini and Nakamura (2012) use static panel data of fixed effect, static panel data of random effect, pooled OLS and feasible generalized Least Squares (FGLS) to examine the key factors that determine working capital management of 2976 public companies in Brazil between the periods 2001 to 2008. The result from the analysis found no significant effect between blockholders ownership and working capital management. Ashar 2022,

Theoretical Review

Baumol Model

Jack Baumol set up Baumol Model in 1952. The model assists firms with distinguishing the ideal size of money that an organization needs to maintain optimum operations. The model states that organizations need to have some cash to use and are certain about it (Moraes and Nagano, 2014). The organizations go for cheap sources of funding that are not a burden to pay back (Alvarez, & Lippi, 2017). The model notes that money management and inventory management are faced with the same issues. The model imagines that the company can forecast cash demands with confidence and that cash outflows are the same over some

period.

Consistency in incomes is an inconsistency of reality in that it is almost difficult to have a reliable capital stream as monetary requests vary after some time (Premachandra, 2014). It further acknowledges that the possible cost of holding real money is seen and consistent and unequivocally, the specific trade cost is upheld. The congruity of this theory is that it is a functioning capital framework and addresses the asset substance of an association, which is exceptionally crucial in the association operations (Miller, 2020). The model was relevant in the present research and expected to inform variable working capital financing. Working capital financing is all about determining the amount of capital needed in the short run to meet the operations. The risk and costs of borrowing need to be examined before choosing the financing strategy to adopt. Thus, the model was deemed appropriate in the study.

Economies of Scale Theory

Marshall developed the economies of scale theory in the 1890s. The theory assumes that the availability of external economies to firms increases with the scale of industry output. Investors prefer companies with massive assets and are confident that their returns are guaranteed (Matějová, Plaček, Krápek, Půček & Ochrana, 2014). There is a favorable effect between firm size and returns (Wicker, Breuer, Lamprecht & Fischer, 2014). The stocks of larger companies often pay good dividends to investors to capture some of their investment returns. Larger firms are expected to have more reliable information concerning their performance, increasing investor confidence and lowering moral hazards (Bejan, Almerbati, & Lorente, 2017).

Further, the theory establishes that large firms can spread risk, thus producing a higher income (Struk, 2015). Larger firms can venture into areas that are not attractive to smaller firms, thus expanding their revenue base and gaining monopoly status. Furthermore, the larger firms have greater access to funding, thus enhancing their performance by investing in modern technologies, hiring qualified staff and investing further, which became advantageous to the investors by earning the dividends (Toutkoushian & Lee, 2018). Besides, firm size enables the company to conduct research and development efforts to remain competitive and attract more investors (Callaghan 2019). Hence, the theory is significant to the present research and informed the variable of firm size.

Profit Maximization Theory

The theory assumes that it is easier for a profit-making organization to access more funds from institutions and investors. There is a guarantee that profit-making organizations can repay debts on time through diversification and expansion of their operations (Young & Makhija, 2014). Every organization develops mechanisms and strategies that strengthen the magnitude of profitability. The business's profitability motivates the company to expand its operations and production (Day, Aigner & Smith, 2001). Institutions are mandated to develop mechanisms and strategies that enhance profit maximization, facilitating a competitive advantage. More profitable businesses can get funding from various sources since they seem proficient in repaying. One of the factors that determine the financing strategies of companies is the degree of profitability (Abbas, 2016).

The theory reports that the only reason why some of the companies perform better than others is because of the strategies been developed to expand their profitability (Jafar, Muda, Zainal & Yasin, 2010). A higher profitability level facilitates an easy expansion of the business to other regio ns. Companies are mandated to develop mechanisms that enhance profit maximization, facilitating a competitive advantage (Divya & Jayanthi 2020). A profitable business has a positive impact on society in the form of employment creation. The only way a business can remain positive in the minds of people in society is through its contribution to socio-economic empowerment.

Most of the performing business engages in sponsoring the events, which increases their visibility to the people (Chang, Batmunkh, Wong, and Jargalsaikhan, (2019). The theory shows that profit maximization is among the motivating factors of conducting business. The higher the profits, the more sustainable the business and thus, the owners are willing to expand the operations even to other regions (Jahn & Brühl, 2018). More profitable companies can get funding from multiple sources since they seem capable of repaying. One of the constituents that determine the financing strategies of companies is the extent of the profitability. Hence, the theory is essential to the research and informed the variable profitability.

Methodology

Research Design

This study used secondary data, covering the period from 2011 to 2021. This makes an *ex-post facto* design suitable for the study. The research design is justified because the event under study had already taken place and the data are already in existence. The study relies on annual reports and accounts of the 16 consumer goods companies. The design is believed to be adequate and appropriate for the measurement of the impact of firm characteristics on working capital management of Nigerian listed consumer goods companies.

Techniques of Data Analysis

In analyzing the data collected for the study, used two techniques of data analysis which are descriptive and inferential statistics (correlation and regression analysis) to determine the variability of dependent variables (Working Capital Management proxied by Cash Conversion Cycle) due to variation in any of the independent variables (profitability, firm size, and blockholders ownership) and control variable (Leverage). Multiple regression technique using panel data methodology was found to be suitable and was thus employed in the analysis of data.

Models Specification

$$CCC_{it} = \alpha_0 + \beta_1 ROA_{it} + \beta_2 SIZE_{it} + \beta_3 BOWN_{it} + \beta_4 LEV_{it} + \mathcal{E}_{it} \ldots\ldots\ldots\ldots\ldots (1)$$

Where:
CCC = Cash conversion cycle
ROA = Return on assets
SIZE = Firm size
BOWN = Block holders ownership
LEV= Leverage
α_0 = Parameters to be estimated (is the average amount the dependent variable increases when the independent increases by one unit, other independents variables held constant).
$\beta_1 - \beta_6$ = Partial derivatives or the gradient of the independent variables.
$\mathcal{E}$ = An error term assumed to satisfy the standard OLS assumption/ Ut = Gaussian White Noise (Stochastic error term)
i = Firm
t = time

Results and Discussion

The results of the analysis are discussed under three subheadings that include the descriptive analysis, correlations analysis and finally the regression analysis.

Descriptive Statistics

The table 4.2 explains that the mean value for the cash conversion cycle (CCC) is 23.772 days with the minimum (min.) and maximum (max.) values of 117.477 days and 7.292 days

respectively. This implies that firms averagely take 23.772 days to turn their locked up capital into cash, with 7.724 days and 117.292 days as minimum and maximum respectively for the same purpose. It could be deduced from the table that average performance of firms, measured by ROA, is has a mean of 5.907% with -44.16% and 26.52% as minimum and maximum values respectively. This implies that there is an average of 5% net profit in relation to the company's total asset. Block holders ownership (BOW) has a mean of 24.562% and standard deviation of 12.612% with a minimum and maximum of 2% and 87% respectively. This indicates that block of director's old significant ownership of the companies in consumer goods sector. This could help them maintain the firm control and assert influence in major firm decisions. Firm size (FSIZE) has a mean of 7.493 and standard deviation of 0.793 with a minimum and maximum of 5.25 and 8.68 respectively.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
CCC (days)	176	23.772	10.724	7.292	117.477
ROA (%)	176	5.907	9.693	-44.16	26.52
FSIZE	176	7.4935	0.793	5.25	8.68
BOW (%)	176	24.562	12.612	2	87
LEV	176	60.564	23.63	4.28	224.11

Note: CCC=cash conversion cycle, BOW=Blockholders ownership, FSIZE=Firm size, ROA= Return on Asset, LEV=Leverage

Correlation Analysis

Correlation is the linear association between any two variables. It is used to measure possible connection between any two variables in the dataset. Although it indicates possible relationship, the coefficient does not imply causality. The results of correlation between the variables are presented in Table 2. The correlation matrix shows the relationship between all pairs of variables in the regression model; the relationship between all explanatory variables individually with explained variable and the relationship between all the independent variables themselves.

The table shows the correlation coefficients on the relationship between the dependent variable (CCC) and independent variables (firm characteristics) in the first column. It could be noted that the relationship between the dependent variable (CCC) and all the independent variables (ROA, BOW, FSIZE) are positive and significant. However, the correlation coefficient varies as the block ownership has the highest coefficient of 0.5364. Similarly, the table presents the correlation results of the relationship between the variables. All the correlation coefficients are less than 0.8 indicating absences of multicollinearity.

Table 2: Correlation Matrix

	CCC	BOW	LEV	ROA	FSIZE
CCC	1				
BOW	0.5364***	1			
	(0.0000)				
LEV	0.3982***	0.447***	1		
	(0.0000)	(0.000)			
ROA	0.4125***	0.465***	0.5534***	1	
	(0.0000)	(0.000)	(0.0000)		
FSIZE	0.1826**	0.1658**	-0.067***	0.0493	1
	(0.0153)	(0.0279)	(0.3767)	(0.5158)	

Note: CCC=cash conversion cycle, BOW=Block holders ownership, FSIZE=Firm size, ROA= Return on Asset, LEV=Leverage, COEF=CEO financial expertise

Regression Result

Regression was carried out after all test for a number of assumptions that a dataset has to meet to have an unbiased regression outputs. These assumptions include absences of multicollinearity, normality, homoscedasticity, absences of omitted variables and linearity. The diagnostic test was conducted in order to improve the validity of all statistical inferences for the study. The result of diagnostic test is presented below:

Table 3: Diagnostic Test

Mean VIF	1.33
Breush-pagan test	0.7959
Data Normality	Good fit
Ramsey test for Omitted variables	0.796

Source: STATA output, 2023

This study used multiple regression analysis in testing all the research hypotheses developed in previous section. This is in line with the methodology proposed in the previous section and numerous studies (Lessambo, 2022; Mahmood, et al., 2022; Kovach et al., 2023) confirmed that regression analysis is the best data analysis instruments for inference. This is also in line with the research objective of determining the influence of firm characteristics on cash conversion cycle.

The analysis of the relationship between the firm characteristics and working capital management focusing on the cash conversion cycle is present in Table 4.9. The regression analysis carried out to examine the effect of firm characteristics (block ownership, firm performance and firm size) and working capital management.

The coefficient of determination for the entire model is strong as the R^2 of the first model is approximately 35% indicating that the 35% of the variation in the CCC is as a result of the variation in the independent variable. Similarly, the second and third models shows the R^2 of 36% and 39% respectively indicating the percentages of the variations in the dependent variable that is caused by the variations in the independent variables.

The results indicate that block ownership has positive effect on cash conversion cycle and the result is statistically significant at one percent (0.000). This implies that block ownership affect cash conversion cycle positive at 99% level of confidence. This implies that increase in block ownership of the studied firms will lead to an increase in cash conversion cycle. The finding is contrary to those of Palombini and Nakamura (2012) who found insignificant relationship between block holder ownership and working capital management.

The table 4.9 also examined the effect of firm profitability on firm working capital management measured by the cash conversion cycle. The result of the relationship shows a positive coefficient of 0.130 with a p-value of 0.068. This indicates that the ROA is positive

and statistically significant at 10%. This means that the higher the firm profitability the more it takes the companies to turn other forms of current capitals into cash. The finding is in consistent with that those Uguru et al (2018), but contrary to those of Haddad and Lotfaliei, (2019) and Kiiru et al (2019).

The result of the relationship between firm size and cash conversion cycle is also presented in table 4.9. The result indicates that the coefficient of the firm size is 0.127 and p-values of 0.054. This implies that firm size has positive effect on cash conversion cycle and the result is statistically significant. This shows that the larger the size the firms, the more the number of days it takes to convert other forms of current assets into cash. The result is in line with Wahome (2018) but contrary to Abbas (2016).

Table 4: Results of Regression

Variables	Coef	T-value	P-value
Const.	0.556	1.04	0.301
BOW	0.391	5.14	0.000***
ROA	0.130	1.84	0.068*
FSIZE	0.127	1.94	0.054*
LEV	0.121	2.03	0.044**
R^2		0.3476	
Adj. R^2		0.3323	
Prob. F		0.000***	
Observations		176	

Source: STATA output, 2023

Conclusion and Recommendations

This study has empirically examined the impact of firm characteristics on working capital management of listed consumer goods companies in Nigeria. The result conclude that all the variables (block holder ownership, profitability and firm size) have significant positive relationship with cash conversion cycle. Accordingly, the study recommends that consumer goods companies and other allied companies should take measures to improve their profitability by growing their revenues and curtailing their expenses so as to generate sufficient internal resources. The study also recommends that consumer goods companies and other related companies should take advantage of their size and manage accordingly their working capital. More so, we recommend that consumer goods firms in Nigeria should pursue policies and products that will assist them to capture the huge economic activities taking place in the informal sector and thereby improve the working capital management within the sector.

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