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## EFFECT OF WORKING CAPITAL MANAGEMENT ON THE FINANCIAL PERFORMANCE OF LISTED CONSUMER GOODS FIRMS IN NIGERIA

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### ABSTRACT

This study examines the effect of working capital management on the financial performance of listed consumer goods firms in Nigeria for a period of ten (10) years (2011-2020). Data for the study were quantitatively retrieved from the annual reports and accounts of the studied firms. Ex-post facto research design was used for the study. The study employed descriptive statistics to describe the variable while the relationships among the variables were established via correlation. Multiple regression model were adopted for testing all the hypotheses and the study result reveals that there was a negative significant relationship between the Debtors' Turnover and financial performance of the Nigerian listed consumer goods firms. It also reveals that the ROA is significantly influenced by the number of days inventories are held in store. The study results advocates that the FP of selected firms is influenced by WCM. The study however, recommends among others that listed consumer goods firms should maintain the current debtors' turnover or further reduce it in order to continue to enhance financial performance.

**KEYWORDS:** working capital, financial performance.

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### INTRODUCTION

Every organization is established to achieve some specific objectives. The survival of consumer goods and product distribution companies depend largely on their ability to effectively manage credit so as to continue to be liquid in order to sustain their operations. The determination of appropriate balance between the volume of debt and credit is of tremendous importance as it dissuades firms from holding excess idle cash balance or running short of cash required to take care of firm's day-to-day operating activities. This requires putting in place some mechanisms to ensure

a balance between short term assets and short term liabilities, (Abdul azeez, Baba, Fatima, & Abdul rahaman, 2018).

Working capital management is a critical component of corporate success due to its direct impact on both the objectives of liquidity and profitability, as such, management seeks to touch the optimal level of working capital, management's commitment to conservative policy in working capital management requires maintaining a high level of current assets Which will reduce liquidity risk and enhance the company's ability to meet operational requirements, but at the same time it will reduce profitability and cause lost investment opportunities and high opportunity costs, (Abdullah, & Altawalbeh, 2020). The importance of Working Capital Management is a key in corporate financial management strategies to earn maximum wealth for the shareholders. Working capital management refers to investment in current assets and current liabilities which are liquidated within one year or less and is therefore crucial for firm's day-to-day operations (Kesimli & Gunay, 2011). Working capital is the money needed to finance the daily revenue generating activities of the firm. According to (Vahid, Mohsen, & Mohammadreza, 2012) working capital management plays a significant role in determining success or failure of firm in business performance due to its effect on firm's profitability as well as on liquidity.

The working capital management (WCM) is one of the contentious issues in short term financial management and it is key as well as tricky financial decision for any company because it has an influence on return and liquidity of a firm. The firms are demanding to have most advantageous level of WC so as to maximize their worth. The core purpose of all firms is to be lucrative and having enough money to pay its short terms obligations and best possible WC decision will enhance the company's performance (Horne and Wachowicz, 2004). WC is regarded as life giving force for almost all types of firms.

Business success depends heavily on the ability of financial managers to effectively manage the components of working capital (Filbeck & Krueger, 2005). Working Capital Management and its Impact on Firms' Performance has been studied extensively by different researchers (Padachi, 2006; Finau, 2011; Anand & Gupta, 2002; Janli, 2012; Adamu, 2016; and Mohamad & Noriza, 2010). Most of these and other researchers identify significant association between working capital management and firms' performance. It has however been discovered that some methods used by managers in making working capital decisions do not rely on the principles of finance, rather they use vague rules of thumb or poorly constructed models thereby worsening organizational performance. This, however, makes managers not to effectively manage the various mix of working capital component which is available to them and as such, the organization may either be overcapitalized or undercapitalized or worst still, liquidate. Justification for this common efforts centered on the relationship between efficiency in working capital management and firms' profitability and its implications on shareholder's value. Most of these studies were however, centered on large firms operating within well-developed money and capital market of developed economies and did not consider the fact that the amount of working capital required varies across industries and indeed firms depending on the nature of business, scale of operation, production cycle, credit policy, availability of raw materials etc (Ghosh & Maji; 2004).

Financial management, mainly working capital management, is critical to the success of consumer goods firms, and inefficiencies in financial management can have a negative effect on their performance. Furthermore, when a company's financial management is effective, it creates value for its shareholders, which is a critical aspect of its overall strategy. Furthermore, an enterprise's level of WCM, which is vital to the foundation, impacts performance (Nazir, & Afza, 2009).

The management of working capital affects the financial performance of a firm especially the manufacturing firms. This is because working capital shows the strength and degree of solvency of the business. The ratio shows the extent to which the claim of creditors can be quickly meet. A low ratio indicates that too much capital is tied up in stocks, (Madugba & Ogbonnaya, 2016). Ideally, firms' fund requirements should be internally generated. The current study aimed to analyze the effect of working capital management on the financial performance of the consumer goods firms listed on the Nigerian Stock Exchange (NSE), as well as to examine the moderating effect of working capital investment and financing policy on the relationship between working capital management efficiency and firm performance. Hence, this study carved out another niche by examining the effect of Working Capital Management on financial Performance of Listed Consumer goods firms in Nigeria for a period of ten (10) years, (2011-2020).

## **Literature Review and Theoretical Framework**

### **Conceptual Review**

#### **Working Capital**

Nurein (2014) and Finau (2011) defined working capital as the excess of current assets over current liabilities. This definition actually brought together the basic tenets of working capital (current assets and current liabilities). There is a consensus among scholars with respect to the definition of working capital which is an amount of money available to finance the organization's short term debt obligation. The availability of this short term fund is a function of excess of current assets over current liabilities. Working capital is an integral part of organizational performance, hence the importance often attached to its management. Effective working capital management ensures maintenance of optimal levels of working capital at any point in time. An optimum level of working capital is that level which supports daily operations without compromising efficiency. A firm can be very profitable, but if this is not translated into cash from operations within the same operating cycle, the firm would need to borrow to support its continued working capital needs. The current assets can be divided to four primary components: (1) cash and cash equivalents; (2) marketable securities; (3) accounts receivable; and (4) inventory and the three major items of current liabilities are: (1) accounts payable; (2) expenses payable, including accrued wages and taxes; and (3) notes payable (Chen, Wang, & Lin, 2009).

#### **Working Capital Management**

Working capital management is the grease that keeps the effective operations of listed consumer goods firms running. WCM is most important part of the decision taken by management that affects the Profitability of firm directly. (Haq et al, 2011) on the other side, Net working Capital(NWCM) is the excess of Current Assets (CA) over Current Liability (CL) of a firm. It tells about the strength of the business and its Liquidity Position means more WC the more Liquidity of the firm. WCM is Management of CA to meet the short term obligations of the company (Raheman & Nasr, 2007).

WCM is the tool through which you meet the short-term debts that fall due and it is the operating requirement which must be maintained (Mohammad & Nasr, 2010).

Working Capital = Current Assets

Net Working Capital = Current Assets - Current Liabilities

Current Assets = Cash + A/R + Inventory

Organizational performance, for the purpose of this study, is synonymous with corporate profitability, firm performance or financial performance. Dong and Su (2010) argue that financial performance is the main objective of a corporate organization. It is measured as returns generated on the capital invested in the business.

### **Current Ratio**

This is also known as working- capital ratio. The ratio of the current assets of a business to the current liabilities, expressed as X: 1 and used as a test of liquidity. The liquid ratio is regarded as a more rigorous test of liquidity, (Oxford dictionary of accounting, 2005).

### **Acid Test Ratio**

It is also called liquid ratio or quick ratio. A ratio used for assessing the liquidity of a company; it is the ratio of the liquid assets (i.e. the current assets less the stock) to the current liabilities. A liquid ratio significantly below 1:1 will give rise to concern. The liquid ratio is regarded as an acid test of a company's solvency, (Oxford dictionary of accounting, 2005).

### **Inventory Turnover Ratio**

The major component of WCM is the inventory management (Talekar, 2005). Inventory turnover is defined as the number of days taken by a firm to convert materials into finished goods. This ratio represents or indicates the efficiency of managing inventory. Poor sales and excess inventory is shown by a low inventory turnover ratio as affirmed by Ruichao (2013). Strategic management of inventory contributes to business performance.

### **Creditors Turnover Ratio**

According to Gitman (1997) for managing the account payables the firm has to study about the Credit Terms (terms to buy at credit), Cash Discount Decisions (taking and giving up discount) And Credit Period (time to pay credit). Payable deferral time is the amount of time that a firm takes or is needed to acquire goods on credit and make the final payment (Oluoch, 2017).

### **Debtors Turnover Ratio**

Accounts receivable is the amount of money owed to a company springing from the sale of goods on credit. According to Amyx (2005) the accounts receivables are determined by the business credit collection policy and the level of total sales. A tight policy inhibits investment in accounts receivable which result to minimal bad debt losses but at the same time reduce profits and lower sales (Johnson, & Soenen, 2003). As aforementioned, there three primary issues that is prevalent in management of accounts receivable. Procedure used to collect the money, terms of credit and who to extend credit (Lazaridis, & Tryfonidis, 2006). Extending credit should be under the basis of cost and benefits due to the uncertainty engrossing future payment. It defines the relationship between

cash flows and accounts receivables. Higher degree of investment in accounts receivable is indicated by longer average collection period. This in turn translates to less cash available to meet cash outflows due to high investment in accounts receivable.

### **Financial Performance**

Financial performance (FP) is the results of all of the listed consumer goods firms' operations and strategies. Measuring financial performance provides consumer goods firms' with information to develop their strategic plans.

### **Empirical Studies**

Ibrahim and Robert, (2020), established the effect of working capital management on performance of commercial SMEs in Mombasa Kenya. The study employed descriptive survey research design. A population of 70 respondents was drawn from all the six sub counties. Data was collected through questionnaires and interviews. Collected data was analyzed using multiple regression analysis. Inferential statistics was used to determine the relationship between variables, and their findings revealed that there was a positive correlation between inventory management, cash conversion cycle and debts management and performance of commercial SMEs in Mombasa County. Also, Mwangi, Makau, and Kosimbei, (2014), investigated the effect of working capital management on the performance of non-financial companies listed in the Nairobi Securities Exchange (NSE), Kenya. The study employed an explanatory non-experimental research design. A census of 42 non-financial companies listed in the Nairobi Securities Exchange, Kenya was taken. The study used secondary panel data contained in the annual reports and financial statements of listed non-financial companies for the period 2006-2012. The study applied panel data models (random effects). Feasible Generalized Least Square (FGLS) regression results revealed that an aggressive financing policy had a significant positive effect on return on assets and return on equity while a conservative investing policy was found to affect performance positively. In addition, Douglas, Wambugu and Maina (2018), evaluated the effect of working capital management on the performance of Small Enterprises in Kenya. Net profit was used as the basis of determining the financial performance of the Small Enterprises. The study investigated small enterprises with more than ten employees in Kirinyaga County. The study used both cross-sectional and co relational research design to determine the effect and relationship between the independent and dependent variables. The study population was Small Enterprises within the county from which a sample of 40 firms used and was obtained through simple random sampling. Questionnaires were administered to the owners of each selected SMEs in order to obtain the primary data. The data obtained was analyzed using multiple regression models to examine the effect of working capital management on the performance of Small Enterprises. The result indicates that's the accounts payable had a positive but insignificant effect on the profit made by SMEs (Coefficient 742.855, p-Value 0.478). Accounts receivable had a negative but insignificant effect on the profit made by SMEs (Coefficient -2977.465, p-Value 0.399). Inventory management had a negative but significant effect on the profit made by SMEs (Coefficient -38445.823., p-Value 0.013). The study concludes that managers can increase profits through shortening Inventory turnover and accounts receivable days.

Additionally, Kamau and Ayuo (2014), investigated the relationship between working capital management (given by cash conversion cycle, CCC) and organizational performance (represented



by profitability/returns) of manufacturing firms in Eldoret Municipality of Uasin Gishu County, Kenya. A sample of 13 manufacturing firms in the region was used in the study. Historical data on financial performance was collected from the annual financial statements of the sampled firms for a period spanning ten years. More data was also obtained from the managements of these firms through interview schedules and questionnaires. Performance was measured in terms of return on assets and return on equity while cash conversion cycle, current assets to total assets and current liabilities to total assets were used as measures of working capital management. Correlation and regression analysis were used for the analysis, and their findings reveal that the working capital management is negatively correlated with return on assets (ROA) and return on equity (ROE) consisting the R values of -0.148 and -0.231 respectively. These figures are low, implying that there is no significant relationship between CCC and performance measures used in the study. The regression coefficients CCC relating to ROA and ROE were -0.007 and -0.018 respectively. This confirms the negative relationship between working capital management and performance measures.

Sajid (2013), studied working capital management and performance of SME sector in Pakistan. Specifically investigated the impact of the WCM on profitability of Small Enterprises, relationship between debt and profitability and the relationship between liquidity and profitability. The study found out that cash management has a positive relationship with the profitability of the Small Enterprises. Nonetheless, collection period, CCC, and inventory turnover have inverse relationship with performance. While analyzing the size of the variable, the study found out that there exists a positive relationship between growth in sales and profitability. In contrast, the study found out that debt ratio exhibits a negative effect on profitability. Empirically, research has confirmed aggressive working capital management policies maximize the profitability ratio of firms. Particularly, findings of Mburu (2010) provide substantial evidence that there is a significant relationship between working capital management variables: cash, payables, account receivables and inventories with profits of the small and medium enterprises. And the findings show that working capital management requirements decides the profitability and liquidity of a firm which in turn affect the investment and financing decisions of an organization. Also, Ahmad, Malik, Nadeem, and Hamad(2014), investigated the impact of working capital on the corporate Performance in the cement, chemical and engineering sectors of Pakistan. The population for this study is companies from cement, chemical and engineering sectors of Pakistan. The sample size is the data of 38 non-financial firms listed on Karachi stock exchange of Pakistan. The study was conducted on the basis of secondary data. For the purpose of data collection annual reports are used for 2007-2011. Return on assets and return on equity are the dependent variables that are measures of profitability. Alternatively, explanatory variables include average age of inventory, average collection period, average payment period, operating cycle and cash conversion cycle. Leverage and firm size as logarithm of assets are the controlled variables. Pooled OLS estimation method was used and to verify the relationship between the measures of working capital and profitability regression models are used. And their findings show that Firm size is positively whereas leverage is negatively related to the return on equity. Average payment period is negatively whereas cash conversion cycle is positively and significantly related with return on equity. The results indicate that working capital management influences the firms' profitability. Additionally, Adeel, Muhammad, Muhammad, Farhan, Atif, and Hina (2020), determined the impact of working capital management on firm's

performance in progressing market such as Karachi stock exchange. In this study they utilized different variables for the analysis of working capital management and firm performance in KSE for a sample of 22 firms of chemical sector for the period of 6 years from 2005-2010. The variables that were used in this study for the measurement of working capital management are number of days receivables, number of days inventory and the Size, Leverage, Inventories, Equity, Sales, and GDP are the control variables. The dependent variable that is used in this study for the measurement of the firm performance is Return on Asset. The size of firm is positively affected by the firm profitability. The firms whose profits are higher, these firms are not interested in managing working capital and firm performance. The result from this study shows that there is negative relationship between the working capital and firm performance. The relationship between the size and profitability is positive. If the size of the firm is increased or decreased then the profitability increased or decreased respectively. Moreover, there are negative relationship between the profitability and the debt utilized by firms that support to pecking order theory.

Okoye, Erin, Modebe and Achugamonu, (2020), investigated the impact of working capital management on the performance of selected companies listed on the Nigerian Stock Exchange using panel data for forty (40) firms from the consumer and industrial goods sectors of the economy. Return on assets (ROA) was adopted as proxy for firm performance while cash conversion cycle (CCC), average payment period (APP), inventory collection period (ICP), and average collection period (ACP) were adopted as proxies for working capital management. Estimation of the impact of the exogenous variables (cash conversion cycle, average payment period, inventory conversion period and average conversion period) on firm performance (endogenous variable) was based on the econometric technique of the Ordinary Least Squares. The study produced evidence of significant positive impact of cash conversion cycle, average payment period, and inventory conversion period on firm performance. There is also evidence of non significant negative impact of average conversion period on the performance of the selected firms. Parameter estimates were obtained at 10 per cent level of significance. The study concludes that working capital management has significant impact on the performance of firms in the consumer and industrial goods sectors of the Nigerian economy. Similarly, Azeez (2015), investigated Working capital management and firms' performance: A study of manufacturing companies in Nigeria. The study utilized secondary data obtained from the annual financial statements of Nigerian Manufacturing companies listed on the Nigerian Stock Exchange (NSE) for period 2008 – 2012. The study measured WC by account receivable period (ACRP), inventory period (INVP), cash conversion cycle (CCC) and sales Growth (SG) and profitability performance measured by returns on assets (ROA). Multiple regression model were adopted for testing all the hypotheses. It also reveals that the profit is significantly influenced by the number of days inventory were held (INVP) and that the profitability performance negatively and significantly related to the cash conversion cycle (CCC). These results suggest that effective policies must be formulated for the individual components of working capital. Furthermore, efficient management and financing of working capital (current assets and liabilities) can increase the operating profitability of manufacturing firms. Akindele and Odusina, (2015) examined the relationship between working capital management and firms' profitability of twenty five Nigerian quoted companies for the seven-year period 2005-2011. Data used in the study were sourced from audited financial statements of the companies. Multiple Regression analysis was used to analyze the data and results

showed a negative relationship between working capital management (Cash Conversion Cycle) and firm profitability (ROA). This finding is consistent with prior empirical studies and provides evidence in support of aggressive policy of working capital management. Also, Osundina and Osundina (2014), examined the effect of working capital management on market value of quoted food and beverages manufacturing firms in Nigeria. Working capital management was proxied by Account Collection Period (ACP), Inventory Conversion Period (ICP), Account Payment Period (APP), Cash Conversion Cycle (CCC) and Aggressive Investment Policy (AIP) while market value was proxied by Tobin Q. Survey research design was employed using primary data. Pearson Product Moment Correlation and multiple regression analysis were used to determine the effect. The study found out that working capital management had significant positive effect on market value of food and beverages manufacturing firms in Nigeria. Also, the outcome of this study shows that Cash conversion cycle, Account Collection Period, Inventory Conversion Period, Account Payment Period, and Aggressive Investment Policy had significant effect on market value of food and beverages manufacturing firms in Nigeria. Umenzekwe, Okoye, and Aggreh, (2021), determined the relationship between components of working capital and financial performance of selected Nigerian manufacturing firms. The ex-post facto research design was adopted and six companies were purposively selected for the period 2013-2020. Data was collected from the annual reports and accounts of the sampled companies and tested by means of fixed and random effects panel data estimation tool. Findings indicated that average payment period had a significant positive relationship with return on investments, while inventory turnover period had a significant negative relationship with return on investments. Also, average collection period had a significant negative relationship with return on investments. Given the findings, it was concluded that working capital management significantly influence financial performance of manufacturing companies. The study therefore recommends that manufacturing companies should ensure optimal mix of working capital proxies in order to optimize financial performance.

Almomani, Almomani, and Obeidat (2021), investigated the moderating effect of working capital investment and financing policy on the relationship between working capital management efficiency and the financial performance of industrial firms listed on the Amman Stock Exchange (ASE). To achieve the objective of the study, this study used time series and data covering the period 2010–2018. A sample of 42 manufacturing firms listed on the ASE was used in the analysis and hypotheses testing. Return on assets is used to measure financial performance, while inventory turnover, receivables turnover, current assets turnover, working capital turnover, and inventory-to-sales ratio are used to measure the working capital management efficiency. This study involved two hypotheses, and both hypotheses were tested to emphasize a 95 percent level of confidence. For data analysis, we used descriptive statistics and the multiple linear regression method was used for hypotheses testing. The study finds that inventory turnover, receivables turnover, current assets turnover, and working capital turnover affect the financial performance of the manufacturing firms, whereas no substantial differences were found between the direct or the moderating models in estimating financial performance.



## Theoretical Framework

Signals are engineered to convey relevant information about a sender to a receiver. As such, they are not arbitrary. Because honest signals contain a link to the underlying attribute being communicated, these pieces of information can be useful in guiding current and future interactions between individuals. However, the honesty of signals cannot be taken for granted because senders may benefit from manipulating the behavior of receivers by use of dishonest signaling. The manipulation may not be in the best interest of the receivers. Financial performance can be either negative or positive. The signaling paradigm is multivariate for financial instruments. The importance of the signaling theory is that if a company is well known in financial performance and exposes more information about its activities, it will have the potential to attract more investment. This is because the signaling theory posits that firms with good performance tend to make effective working capital management more readily, as doing so is regarded as an easy means of distinguishing themselves from others in the market place. Using this theory, it can be conjectured that working capital management have influence on financial performance. To conclude, , the signaling theory better explains the need for working capital management as they assist investors make investment decisions. Therefore, this study is underpinned by the signaling theory. Signaling theory is chosen because they best explain the need for working capital management and the association of the variables in the study than the other theories.

## Methodology

### Research Design

The paper adopted the ex-post facto research design. The choice of ex-post facto design is because data used in this study is documented in the annual report of selected companies.

### Population and Sample Frame

The population of this study is made-up of the 28 consumer goods firms listed on the Nigerian Stock Exchange during the period of study and the reason for the choice of this market is primarily due to the reliability of the financial statements. The following criteria must be met for any of the listed consumer goods firms to be selected as sample. The study used sample frame to select the sample based on the following criteria:

- ❖ Companies must remain listed on the Nigerian Stock Exchange (NSE) during the 2011 – 2020 periods.
- ❖ Companies must have complete financial statements for the period under review.
- ❖ Companies must be operational within the period under investigation.

Nine (9) consumer goods firms met the criteria set out and they cut across all sectors.

### Method of data collection

Secondary data were extracted from the annual report of the nine selected listed consumer goods between the periods of 2011-2020.

### Model Specification and Variables Measurement

This study adopts and modifies the econometric model used by Daniya, Adeyeye andYahaya (2016).

$$ROA_{it}=a_0+ \beta_1IT_{it}+\beta_2DT_{it}+\beta_3CT_{it} +\beta_4CR_{it}+\beta_5AR_{it}+\beta_6FS_{it} +e_{it}$$

$a_0$  is the intercept of the regression.

$\beta_1, \beta_2$  and  $\beta_3$  are the coefficients of the regression.

ROA = Return on assets

IT= Inventory turnover

DT= Debtors turnover

CT = Creditors turnover

AR= Acid ratio

FS= Firm size

e = Error term

Variables used in this study are Independent (Working Capital Management) and Dependent (Financial Performance) variables respectively.

**Table 1: Showing variables and measurements**

Category	Variable	Operational	Measurement	Hypothesized direction
Dependent variable	Performance	Return on assets (ROA)	EBIT/Total Assets (Pratheepkanth,2011;Ebaid,2009; Abor, 2005)	Positive/Negative
Independent variable	Working Capital Management	Inventory turnover ratio	Inventory/Turnover	Positive/Negative
		Debtors turnover ratio	Debtors/Turnover	Positive/Negative
		Creditors turnover ratio	Creditors/Turnover	Positive/Negative
		Current ratio (working ratio)	Current Assets/Current Liabilities 2:1 is accepted to be ideal.	Positive/Negative
		Acid Test ratio (quick assets ratio)	Current Assets less Inventory/Current Liabilities As a general rule, a quick assets ratio of 1:1 is accepted to be ideal	Positive/Negative
		Control Variable	Firm size (FS)	This is a proxy for the size of The company listed at NSE

**Source:** Author's compilation (2022)

### Method of Data Analysis

The data obtained were analyzed by descriptive statistics, correlation analysis, and panel multiple regression analysis. The data was analyzed using the Statistical Package for the Social Sciences, IBM SPSS version 23. Descriptive statistics were used to summarize and profile the status of working capital management policies (WCMP) and performance among companies listed in the NSE. Andy, (2005) argues that the descriptive statistics is a useful summary of the data. The

decision rule is to reject the null hypothesis if calculated p-value is greater than the tabulated t-value.

## ANALYSIS OF RESULTS AND DISCUSSIONS

### Analysis of Results

Descriptive statistics shows mean, median, maximum, minimum and standard deviation. Table 2 shows that return on assets has an average mean of 10.97. From table 2, average (mean) independent variable Inventory turnover (INT) 1005873.83, Debtors turnover (DT) 4.83, Creditors turnover (CT) 39.30, Current ratio (CR) 69.25, Quick ratio (QR) 26.69, and control variable Firm size (FS) 12.05. Their minimum is ROA -33.8, INT and CT both has 0, DT 1.6, CR 2, QR 0.03, FS 5.17, the maximum value is ROA 49.03, INT 7837089, DT 7.67, CT 365, CR 274, QR 3401, FS 44.3.

**Table 2: Descriptive statistics**

	ROA	INT	DT	CT	CR	QR	SIZE
Mean	10.97	1005873.83	4.8313	39.301	69.251	26.685	12.051
Median	10.18	309667	5.68	29	95	0.5372	6.505
Maximum	49.03	7837089	7.67	365	274	3401	44.34
Minimum	-33.77	0	1.6	0	2	0.0294	5.17
Std. Dev.	14.315	1475125.67	1.972	51.584	78.680	298.241	64.700

**Table 3: Regression results**

Dependent Variable: ROA			
Method: Panel Least Squares			
Sample: 2011 2020			
Variable	Coefficient	p-values	Prob.
C	-31.0469	5.917	0.0401
INVT	0.0000	2.211	0.0265
DT	6.71879	0.771	0.0061
CT-	0.0693	-1.52	0.0116
CR	0.0145	4.12	0.6835
ATR	-0.0013	-2.48	0.0464
FS	0.0000	0.62	0.0119
<b>R-squared</b>	0.7752		
<b>Adjusted R-squared</b>	0.7671		
<b>Durbin-Watson stat</b>	1.7083		
<b>Sum squared residual</b>	14220.4471		0.0000
<b>F-statistic</b>	8.3775		

In this table 3, the authors measured different variables. From the Table 3 we observe that the F-stat of the model is 8.3775 and is significant at 1%. It shows that the model is fit. Also, the Durbin Watson (DW) value of 1.7083 indicates that there is less autocorrelation between the variables. The relationship between ROA and other variables are positive or negative that is shown in this table. CT (creditor's turnover) has inverse relationship with ROA, if CT increased, the ROA decreased and if CT decreased, the ROA is respectively increased. So, that is its effect on working capital management and firm's financial performance. There is a relationship between ROA and CR (current ratio), if CR increases then ROA increases and if CR decreases then ROA decreases. R square shows change in dependent variables due to the change in independent variables. Adjusted R square adjusts the variables of the model. F statistics shows the significance of the model variables, that is how much the model is significance or not. There is positive relationship between the sizes of the firm with ROA. If the short term assets or long term assets decreases firm size also decreases. QR (quick ratio) shows the firm liquidity ratio in this study which is applied on the sample firms of the consumer goods sector of NSE. There is positive relationship between the inventories of the firm with ROA.

**Table 4: Summary of Regression Results for the Study Model**

R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std error of the estimate	Change statistics					Durbin Watson
				R <sup>2</sup> change	F. change	Df	Df <sup>2</sup>	Sig. f. change	
0.8411	0.775	0.767	0.0822	0.775	14.766	4	27	0.020	1.708

- a. Predictors: (constant), FS, INVT, DT, CT, CR, and QR  
 b. Dependent Variables: ROA

## DISCUSSIONS

A summary of the findings from the study analysis and test based on the study objectives are:

1. From the results in section 4 above the p-values 0.0061 is less than 0.05, the null hypothesis is rejected and alternate hypothesis is accepted. This means that Debtors Turnover Ratios (DTR) have significant effect on return on assets (ROA) of the listed consumer goods firms in Nigeria. Therefore, the study found that financial performance of Nigerian listed consumer goods firms is significantly influenced by the number of days account receivable are outstanding (Debtors Turnover Ratio).

Debtors Turnover Ratio was found to be significant and positively associated with the performance at 5% level of significant indicating that larger account receivable period increase the performance of listed consumer goods firms in Nigeria. Therefore, debtor's turnover ratio has significantly affected the performance.

In view of the above result reported in respect of debtor's turnover ratio showing that the variable is statistically significant in influencing the performance, there is therefore, sufficient evidence of rejecting null hypothesis one of the studies.

2. From the results in 4 the p-values of 0.0265 are less than 0.05, the null hypothesis rejected and alternate hypothesis is accepted. This means that Inventory turnover ratios (ITR) have significant effect on return on assets (ROA) of the listed consumer goods firms in Nigeria.

Therefore, the study found that the financial performance of Nigerian listed consumer goods firms is significantly influenced by the number of days inventory is held in store (Inventory Turnover Ratio).

Inventory was found to be statistically significant in influencing the performance of listed Consumer goods firms in Nigeria. This means that it is significantly associated with Performance of listed Consumer goods firms in Nigeria. Therefore, Inventory has significantly affected the Performance.

Owing to the above outcome reported as regards Inventory showing that the variable was statistically significant in influencing the Performance, thus providing an evidence of rejecting null hypothesis two of the study.

3. Creditors' turnover ratio was found to be negatively significant at 5% level, which means that it is associated with the performance of listed consumer goods firms in Nigeria. Therefore, account payable has significantly affected the performance.

In line with the above result reported as regards account payable, it shows that the variable was statistically significant in influencing the performance, and this therefore, provides evidence of rejecting null hypothesis 3 of the study. Therefore, the study found that the financial performance of Nigerian listed consumer goods firms is significantly influenced by the number of days inventory is held in store creditor's turnover ratio (CTR).

4. Current ratio was found to be positively significant at 5% level. This means that current ratio (CR) have non-significant effect on return on assets (ROA) of the listed consumer goods firms in Nigeria. Therefore, the study found that the financial performance of Nigerian consumer goods firms is non-significantly influenced by the Current Ratio (CR).

5. Acid test ratio was found to be negatively significant at 5% level, which means that it is associated with the performance of listed consumer goods firms in Nigeria. Therefore, acid test has significantly affected the performance.

In line with the above result reported as regards acid test, it shows that the variable was statistically significant in influencing the performance, and this therefore, provides evidence of rejecting null hypothesis 5 of the study. Therefore, the study found that the financial performance of Nigerian listed consumer goods firms is significantly influenced by the acid test ratio (ATR).

The above results are consistent with the empirical findings of Oyedele, et al. (2017), Deloof (2003), Azeez (2015), Adeel, et al (2020), Bagh, et al (2016), and Abdulnafa, et al (2021), Padachi (2006), Rahaman and Nasr (2007), and Falope and Ajilore, (2009), Okoye, et al., (2020), Khan, et al, (2021), Daniya, et al., (2016).

The findings therefore, confirm that there is a significant relationship between measures of working capital management and financial Performance of the Nigerian consumer goods firms in line with the previous studies. This means that Nigerian firms should ensure adequate management of working capital management measures especially the DTR, ITR, CTR, CR, and ATR as efficient working capital management is expected to contribute positively to firm's performance.



### Conclusion and Recommendations

This study therefore concludes that listed consumer goods firms in Nigeria cannot maximize its ROA as well as shareholders' wealth without paying proper attention to the management of the various components of its working capital. In short the empirical results of current work gives an understanding about the significance of efficient management of working capital to ensure firm performance.

Finally, the study recommends that the account payable which is regarded as a major source of working capital financing for firms should be repositioned in order to reduce the debtors' turnover further. This will improve their liquidity position and also reduce their over-dependence on high interest loans for financing of the day-to-day operations. Managers of these companies can achieve this by re-negotiating with their regular and important suppliers for further increase in the number of days account payable are due for payment (Pandey, 2005).

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