



WORKING CAPITAL MANAGEMENT AND PERFORMANCE OF LISTED FOOD AND BEVERAGES COMPANIES IN NIGERIA

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ABSTRACT

This study examined the effect of working capital management on performance of judgmentally selected food and beverages companies quoted on the Nigeria Stock Exchange for a period of five (5) years (2014 – 2018). Multiple Regression Analysis was carried out on the data extracted from the financial statements of the selected firms using ROA as the dependent variable and Average Collection period, Current Ratio, Cash Conversion Cycle and Debt Ratio as the independent variables. The study found out that there exist a relationship between working capital management and the performance of the firms though the relationship appears insignificant. It is however, recommended that to further reduce Cash Conversion Cycle, there should be a repositioning of account payable (regarded as a major source of working capital financing for firms).

KEYWORDS: *working capital, cash conversion period, average collection period, performance*

Introduction

Business all over the world exists to carry out several activities in order to make profit and raise economic growth of any nation or for the continuous survival for the organization. Kaur (2010) opined that the management of working capital is a strategic management decision which is involved in the structuring and maintenance of short term assets and liabilities which helps in generating an efficient level of inputs to ensure availability of adequate cash flows to meet organisations' short term obligations.

Food and beverages sector as one of the major producers of consumer goods in Nigeria is the largest sub-sector among the Nigerian manufacturing firms quoted on the floor of Nigerian Stock Exchange and deserves proper attention in order to be able maximize profit.

Arnold (2005) suggested that decisions concerning working capital deserves proper attention because if taken for granted and working capital becomes too little, the result will be a shortage in inventories and finished goods thereby resulting in insufficient customer credit. This can also be interpreted to mean that inefficient management of working capital results in additional costs (ordering, storage handling etc.) and may cause organisations to underperform in form of a reduction in profitability and a threat to the future survival of such organisations (Singh and Asress, 2011).

Statement of the Problem

Although, effect of working capital management on the general performance of organisations has been tested in different companies and sectors, some of the variables tested (cash conversion cycle in Ajayi, Abogun & Odadiran (2017), account receivable ratio and debt ratio in Olanrewaju, Doorasamy & Oladejo (2017), account collection period, inventory conversion period and account payment period in Osundina (2014)) have been found to have negative effect which has created a gap in literature. Therefore this study serves to bridge the gap in literature by testing the effect of the management of working capital on performance of food and beverages firms in Nigeria using average collection period in days, current ratio, cash conversion cycle in days and debt ratio

Objectives of the Study

Generally, this study is working capital and management performance on listed food and beverages manufacturing sectors in Nigeria. However, it is set to achieve these specific objectives:

- i. To determine the extent to which Average Collection period in days influence performance of listed food and beverages companies in Nigeria.
- ii. To evaluate the extent to which current ratio has effect on performance of listed food and beverages companies in Nigeria
- iii. To determine the relationship between the Cash conversion cycle in days and performance of listed food and beverages companies in Nigeria.
- iv. To evaluate the extent to which debt ratio has influenced performance of listed food and beverages companies in Nigeria.



Research Hypotheses

In achieving the above listed objectives, the researchers developed the following hypotheses:

- Ho₁:** Average collection period in days has no significant effect on performance of listed food and beverages companies in Nigeria.
- Ho₂:** Current ratio has no significant effect on performance of listed food and beverages companies in Nigeria.
- Ho₃:** There is no significant correlation between cash conversion cycle in days and performance of listed food and beverages companies in Nigeria.
- Ho₄:** Debt ratio has no significant influence on performance of listed food and beverages companies in Nigeria.

Literature review

Working capital as an operational item which should be dictated by the size of operations of an organisation is very important in the smooth running of any organisation. It determines how successful an organisation can be as its liquidity and profitability relies solely on how well it manages its working capital.

The importance of working capital can also be seen in supporting the day to day operations of an organisation such as payment of salaries and wages, credit sales financing, purchase of stocks and other business expenses .

Management of working capital is a functional area of finance that encompasses all current accounts of an organisation. It also concerns all levels of individual mechanisms of working capital managed in such a way as to ensure adequate amount of working capital is maintained for the smooth running of the organisation up to a satisfactory level (Dong and Su (2010), Loneux (2004), Ghosh and Maji (2004))

Businesses all over the world require certain degree of working capital to fulfill their day to day financial obligations. The volume of the working capital required by each organisation however depends on its level of activities as its level of working capital grows with its level of output. It will be dangerous for any organisation's working capital not to grow in line with its level of output because if such happens and working capital becomes insufficient, such organisation will lack funds to finance its growing day to day financial operations and may have to depend on short term sources of fund or its continued operation/survival may be threatened.

According to Nwankwo and Osho (2010), the goal of working capital management is to strike a balance between organisational short term assets and its short term liabilities in order to have an assurance of its continued survival and ensure it has sufficient cash flows to fulfill its day to day financial obligations.

Cash Conversion Cycle Theory

Cash conversion theory explains the amount of time in days it takes an organisation to convert its inventory investments into cash. That is, the theory aims at calculating how many days (on the average) it takes an organisation to turn its raw materials into useable cash to meet its liquidity obligations. Cash conversion cycle can be broken down into three parts these are; days inventory outstanding which calculates the number of days it takes the organisation to sell its inventories, days sales outstanding which measures how long it takes to collect payments for the sales and days payment outstanding which calculates the number of days it takes to pay the organisation's suppliers. It should be noted however that cash conversion cycle does not work in isolation; it is calculated based on the industry benchmark. That is, cash conversion cycle only makes sense if compared in trend with other organisations operating in the same industry. (Hutchinson 2007, Padachi 2006).

Resource Based Theory

Be it human or material, resources are any organisational foundation of business survival and are said to only work well when matched. That is, for human resources to be productive, it requires the cooperation of material resources. Resource based theory explains organisational resources as the vehicle in which organisation's wellbeing ride; it further explains that for any organisation to succeed, its resources must work in cooperation.

These two theories are the platform on which this research work lies. First, the cash conversion cycle theory because it relates to the movement of cash from the point of purchase of raw materials to the point at which the cash collected becomes usable for the running of the organisation, this is a very important aspect of working capital which serves as the independent variable for this study. Second, the resource based theory that relates to the dependent variable in this study which measures the organisational performance.



Empirical Review

Studies previously carried out on the relationship between management of working capital and profitability of firms has shown mixed result. While most studies carried out on Nigerian firms affirmed that the relation is a negative one, some studies carried out in countries other than Nigeria has shown a positive relationship. This according to Osundina (2014) may have been as a result of an enabled environment, stable economy in the those other studies have been carried out or the choice of methodology used which is completely different from what others have used.

Takon and Atseye (2015) studied effect of working capital management on the profitability of 46 firms listed on the stock Exchange of Nigeria for a period of 2000-2009 and established a strong negative relationship between working capital and profitability.

In a study carried out by Seyed and Esmail (2012) on 147 companies listed on the Tehran Stock Exchange to examine the relationship between management of working capital and profitability between 2005 and 2009, it was revealed that the relationship is significantly negative.

Osundina (2014) tested the effect of working capital on profitability of some listed food and beverages manufacturing firms in Nigeria and found out that all the variables tested (cash conversion cycle, account collection period, inventory conversion period and account payment period) showed negative relationship with net operating profit.

Also, Falope and Ajilore (2009) conducted a study on 55 non-financial firms listed on Nigeria Stock Exchange between 1996 and 2005 to examine the effect of working capital management on profitability and established that all the variables tested (average collection period, cash conversion cycle, average payment period and inventory turnover in days) show negative relationship.

However, in a study carried out by Akinlo (2011) to investigate the effect of working capital management on profitability. 66 firms listed on the floor of Nigeria Stock Exchange were selected in a panel between 1999 and 2007. The study established a mixed result as leverage and number of days account payable revealed a negative relationship with profitability while number of days inventory period, number of days accounts receivable, cash conversion cycle and sales growth showed a positive relationship on profitability.

Ajayi, Abogun and Odediran (2017) also carried out a study on 15 purposefully selected firms listed on the Nigeria Stock Exchange to measure the impact of working capital management on financial performance and instituted a mixed result as cash conversion cycle showed a negative relationship and average collection period showed a positive relationship.

Methodology

The population for this study is made up of all manufacturing food and beverages companies listed in Nigeria out of which Cadbury Nigeria Plc, Dangote Sugar Refinery plc, Flour Mills Nigeria Plc, Honeywell Flour Mill Plc and Unilever Nigeria Plc were judgmentally selected because they hold a lead in manufacturing food and beverages companies of Nigeria and also because their financial statements are readily available for the entire period (2014-2018) under this study.

Data extracted from the annual reports of these firms were categorized, ordered, manipulated, summarized and analysed through Multiple Regression on SPSS software.

In order to analyse the hypothesized relationship between the variables set for this study, this econometric equation was formulated in form of a multiple regression:

$$\text{ROA} = \beta_0 + \beta_1 (\text{AC}) + \beta_2 (\text{CR}) + \beta_3 (\text{CCC}) + \beta_4 (\text{DR}) + e$$

Where

ROA = Return on Assets (Dependent Variable)

AC = Average Conversion Period (Independent Variable)

CR = Current Ratio (Independent Variable)

CCC = Cash Conversion Cycle in days (Independent Variable)

DR = Debt Ratio (Independent Variable)

e = Error Term

β_0 = Intersect

$\beta_1, \beta_2, \beta_3, \beta_4$ = Coefficient



Results and Discussion

Table 1

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.491 ^a	.241	.089	.06668	1.517

a. Predictors: (Constant), Debt Ratio, Average Collection Period, Cash Conversion Cycle, Current Ratio

b. Dependent Variable: Return on Asset

Output from SPSS 20.0v

Table 2

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.028	4	.007	1.585	.217 ^b
	Residual	.089	20	.004		
	Total	.117	24			

a. Dependent Variable: Return on Asset

b. Predictors: (Constant), Debt Ratio, Average Collection Period, Cash Conversion Cycle, Current Ratio

Output from SPSS 20.0v

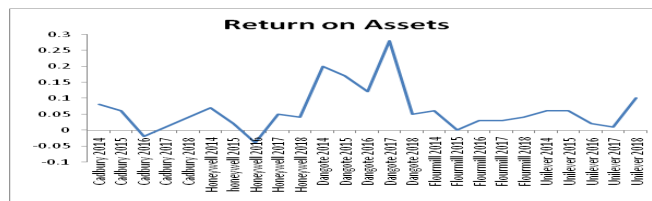
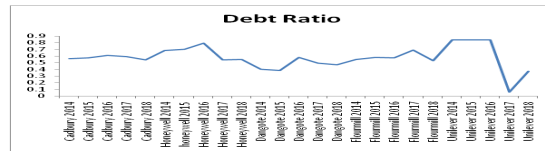
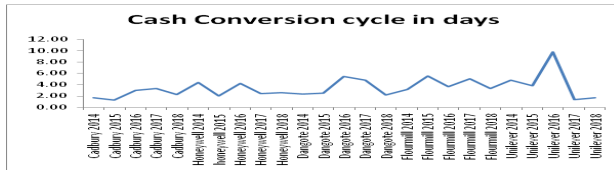
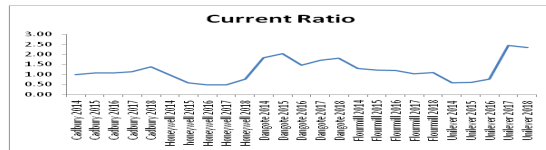
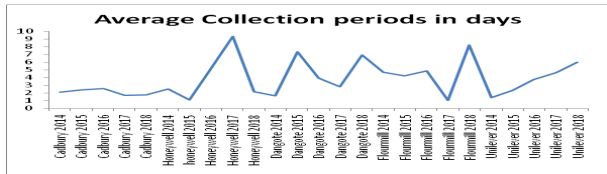
Table 3

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.098	.167		-.588	.563
	Average Collection Period	-.002	.006	-.077	-.362	.721
	Current Ratio	.088	.052	.696	1.687	.107
	Cash Conversion Cycle	.000	.010	.012	.045	.964
	Debt Ratio	.104	.206	.255	.506	.618

a. Dependent Variable: Return on Asset

Output from SPSS 20.0v





Interpretation of Result

Table 1 above shows the model summary of the regression presenting the R which is the coefficient of determination among the variables employed as 49.1%, the R square which is the correlation among the variables is given as 0.241 after adjustment for abnormalities. The adjusted R Square which shows the extent to which the independent variables can explain the dependent variable is shown as 8.9% i.e. 8.9% of the disparity in the dependent variable (Return on Asset) is explained by the independent variables (Average Conversion Period, Current Ratio, Cash Conversion Cycle in days, Debit Ratio) and the rest of the 91.1% variation can be elucidated by other variables not employed in this study. Also, the standard error of estimate is shown as 0.06668. The Durbin-Watson which is used to test for the reliability and validity of the variables employed to investigate the research problem by testing for the existence or absence of auto-correlation amongst the variables. The Durbin Watson statistics on the other hand reveals that the model is not likely to be spurious and there is likelihood that the model is free from autocorrelation problem since the Durbin Watson statistics of 1.517 approaches 2 and it is greater than the R-Squared Statistics.

The Analysis of Variance in the regression model 1 is displayed in Table 2 above showing the sum of square, the degree of freedom, mean square, F-statistics and its probability value. From the F-statistics which is given as 1.585 with a probability value of 0.217 which is statistically insignificant at a significant level of 0.05. Hence it is not statistically right to conclude that the overall fitness of the model is achieved as the variables do not possess strong linear relationship.

Table 3 shows the coefficients of the regression model presenting un-standardized coefficients and standardized coefficients, the t-statistics and its probability values. The coefficient can be used to write the Equation of the regression model as:

$$\text{ROA} = -0.098 - 0.002 + 0.088 + 0.000 + 0.104 + \mu$$

From the model written; it is established that a unit rise in Average Conversion Period will influence a fall of 0.002 on Return on Asset; a unit rise in Current Ratio will cause a rise of 0.088 in the Return on Asset, a unit rise in Cash Conversion Cycle in days will have an increase of 0.000 in Return on Assets; while a unit rise in Debt Ratio will trigger a rise of 0.104 in Return on Asset. The t-cal value of the firms are presented and the Average Conversion Period has a t-cal value of -0.362, Current Ratio has a t-cal value of 1.687, Cash Conversion Cycle in days has a t-cal of 0.045 and Debt Ratio has a t-cal value of 0.506. Current Ratio maintains a positive significant relationship with Return on Asset, Cash Conversion Cycle in days and Debt Ratio maintains positive insignificant relationship with Return on Asset while Average Conversion Period maintains a negative relationship and only Current Ratio is significantly related.

Table 4 depicts the time plot of the measured variables under study. Results showed the direction towards which the measured variables of working capital management (AC, CR, CCC and DR) are moving over time taking the five companies as proxy. Results indicated that there are irregularities in the observations per each of the companies.

Considering the Durbin Watson statistics and the R-Squared values of the models in this study, there is no prove of auto correlation (serial correlation) problems amongst the variables used in this study; as shown in table 1, the regression results reveal that the R-Squared Value of 0.241 is less than the Durbin Watson Statistics of 1.517.

Test of hypotheses

Hypothesis One

H0₁: Average collection period in days has no significant influence on performance of listed food and beverages companies in Nigeria.

From Table 3 it is evident there is a relationship between Average collections period in days and Return on Asset. The table shows the t-cal between the two variables as -0.362 which is lesser than the t-tab of -2.201 with a probability level of 0.721 which is statistically insignificant at a significant level of 0.05. Hence, the researchers accept the null hypothesis and conclude that Average collection period in days has no significant influence on performance of quoted food and beverages companies in Nigeria.

Hypothesis Two

H0₂: Current ratio has no significant effect on performance of quoted food and beverages companies in Nigeria.

Table 3 shows a t-cal of 1.687 which is less than the t-tab of 2.201 with a probability level of 0.107 which is statistically insignificant at a significant level of 0.05. Hence, the researchers accept the null hypothesis and made



conclusion that Current ratio has no significant effect on performance of listed food and beverages companies in Nigeria.

Hypothesis Three

H0₃. There is no significant relationship between the cash conversion cycle in days and performance of quoted food and beverages companies in Nigeria.

Table 3 shows the relationship between Cash conversion cycle in days and Return on Asset. The table shows the t-cal between the two variables as 0.045 which is far less than the t-tab of 2.201 with a probability level of 0.964 which is statistically insignificant at a significant level of 0.05. Hence, the null hypothesis is accepted and conclusion reached that there is no significant effect of the cash conversion cycle in days on performance of listed food and beverages companies in Nigeria.

Hypothesis Four

H0₄. Debt ratio has no significant influence on performance of quoted food and beverages companies in Nigeria.

From Table 3 above, the relationship between Debt ratio and Return on Asset is revealed. The table shows the t-cal between the two variables as 0.506 which is far less than the t-tab of 2.201 with a probability level of 0.618 which is statistically insignificant at a significant level of 0.05. Hence, the null hypothesis is accepted and conclusion is reached that Debt ratio has no significant influence on performance of listed food and beverages companies in Nigeria.

Summary, Conclusions and Recommendations

This study examined the management of working capital on performance of selected food and beverages companies quoted on the floor of Nigeria Stock Exchange (NSE) for the period between 2014 and 2018 (5 years). The study's specific objectives were to investigate the correlation between the various measures of working capital management, which are Average Collection Period (AC), Current Ratio (CR), Cash Conversion Cycle in days (CCC) and Debt Ratio (DR) on performance of the selected food and beverages companies in Nigeria.

The data collected for this study were obtained through the secondary source and performance was measured with Returns on Assets (ROA) and Working Capital Management was measured using AC, CR, CCC and DR.

From the regression results; it is established that none of the variables tested has a significant influence with the measure of performance (ROA) and the average conversion period shows a negative relationship though insignificant.

Conclusion

This study which set out to investigate effect of working capital management on performance of Nigerian companies was carried out using five (5) judgmentally selected companies from the food and beverages sector of Nigeria and in line with the study conducted by Akinlo (2011), it found a mixed result in the variables tested (average collection period, current ratio, cash conversion cycle in days and debt ratio) on return on asset. Though insignificant, the variables show a positive relationship with working capital except for Current Ratio.

The study therefore concludes that the management of working capital has a very important role to play in any business and neglect may cause the company to fail because even if a company is making profit, if cash (current asset) is not enough to meet its immediate obligations, the company may go bankrupt.

Recommendations

The study made the following recommendations based on its findings:

For any organisation to perform well it has to manage its working capital well so that too much cash will not be idle and at the same time, there will not be a shortage of cash which may lead an organisation to rely heavily on short term financing.

A reduction in cash conversion cycle and number of days in inventories can be achieved through an improvement in inventory control process which in return can enhance the performance of an organisation to a great extent.

And on a final note, it is recommended that there should be a repositioning of account payable to further reduce cash conversion cycle which will not only improve organisation's liquidity position but also reduce its heavy reliance on high interest loans for its day to day operations.



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