



# **Working Capital Management and Financial Performance: Evidence from Nigerian Breweries PLC**

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## **ABSTRACT**

This study investigates the effect of working capital management on financial performance with specific reference to Nigerian Breweries Plc. The data collected for this study were extracted from the audited annual financial reports and accounts of Nigeria Breweries Plc from 2011-2016. Both descriptive statistics and inferential statistics were employed to analyse that data. The study reveals that cash conversion cycle (CCC) has negative and significant relationship with the return on assets (ROA) at 5% level. The study also confirms that there is negative but insignificant relationship between inventory conversion period (ICP), debtor conversion period (DCP), creditor conversion period (CCP) and Return on Assets. The study therefore, recommends that the management of Nigerian Breweries Plc should reduce the number of days inventory are held in store, number of days accounts receivable are outstanding and the accounts payable should be repositioned in order to reduce the cash conversion cycle. This will not only enhance financial performance but will boost image of the company and maximize returns to shareholders.

**Key words:** Working Capital, Cash, Creditor, Debtor, Financial Performance

## **INTRODUCTION**

Business organizations are viewed as an essential element of a healthy and vibrant economy. They contribute significantly to the economic growth and sustainable development through employment generation and poverty alleviation globally. In Nigeria, manufacturing companies have been witnessing distressed syndrome due to poor management of working capital. In line with this view, Studies reveal that many business organizations have moribund, some have left the country to other Africa countries for their survival, while surviving ones in the country are still thinking of mergers and acquisitions due to liquidity problem syndrome (Salawu & Alao, 2014; Lawal, Abiola & Oyewole, 2015).

Working capital management has been identified by scholars, researchers and accountants as a panacea to organizational survival in a global competitive environment. Eya (2016) argues that working capital management is a vital part of business investment which is essential for continuous business operations. Angahar and Alematu (2014) also affirm that efficient working capital management is crucial to the financial performance of firms of all sizes and it also serves as an important indicator of sound financial health of firms. In the same vein, Padachi (2006) asserts that the management of working capital is important to the financial health of firms of all sizes. Sanusi (2006) also supports the previous studies that working capital is a life blood of business organizations because it serves as a pool of liquid assets which provides a safety cushion to creditors. It provides a liquid reserve with which to meet contingencies and the ever present uncertainty regarding a company's ability to balance its cash outlay with an adequate inflow of funds. In the view of Akinlo

(2011), a poor or inefficient working capital management leads to tying up funds in idle assets and thereby reducing the liquidity and profitability of a company.

Eya (2016) defines working capital as the funds locked up in materials, work in progress, finished goods, receivables, and cash and cash equivalent. Falope and Ajilore (2009) also see working capital as the excess of current assets that has been supplied by the long-term creditors and the stockholders. In a similar study, Sunday, Abiola and Lawrencia (2012) define working capital management as a process of planning for the acquisition and usage of short term assets and liabilities. Working capital is the flow of readily available funds necessary required for continuous operations of an enterprise. Every business requires working capital for its survival. It is required by a firm to maintain its liquidity, solvency and profitability (Mukhopadhyay, 2004). According to Osisioma (1997), company's working capital requirements are determined largely by the length of operating cycle and the rate of flow of costs within the operating cycle.

### **Statement of the Problem**

Empirical studies have shown that over one thousand companies globally lose about \$2 billion per year due to poor working capital management (Angahar & Alematu, 2014; Eya, 2016; Ojeani, 2014). In Nigeria, many local industries are operating under harsh conditions such as lack of access to fund and high interest rates on bank loans among other business killer factors which continued to retard the growth of the sector (Salawu & Alao, 2014). Equally, Lawal, Abiola and Oyewole (2015) reiterate that most of manufacturing companies in Nigeria have moribund due to poor management of working capital. Authors argue that most managers fight to increase inventory turnover in a bid to increase profitability without been mindful of the need to speed up the debtor collection period and to delay creditor payment period as far as possible so as to provide the funds needed to keep the cycle flowing. The problem of illiquid among manufacturing companies in Nigeria is alarming due to credit constraints and economic recession. Evidence from financial reports also indicates that most of organizations could not pay dividend due to liquidity problem. This implies that a gap still exist in literature on the effective management of working capital with a greater impact on the financial performance of manufacturing industry.

It is on this background that this current study intends to examine the effect of working capital management on financial performance with special reference to Nigerian Breweries Plc for the period of 2011-2016.

### **Research Objective**

The general objective of this study is to examine the effect of working capital management on financial performance with specific reference to Nigerian breweries. The specific objectives are to;

- i. Examine the effect of Inventory Conversion Period (ICP) on financial performance of Nigerian breweries.
- ii. Determine the impact of Debtors' Conversion Period (DCP) on financial performance of Nigerian breweries.
- iii. Assess the influence of Creditors' Conversion Period (CCP) on financial performance of Nigerian breweries.
- iv. Evaluate the effect of Cash Conversion Cycle (CCC) on financial performance of Nigerian breweries.

### **Research Hypotheses**

The following hypotheses are formulated in null form

**H<sub>01</sub>:** Inventory Conversion Period (ICP) has no significant effect on financial performance of Nigerian breweries.

**H<sub>02</sub>:** Debtors' Conversion Period (DCP) has no significant impact on financial performance of Nigerian breweries.

**H<sub>03</sub>:** Creditors' Conversion Period (CCP) has no significant influence on financial performance of Nigerian breweries.

**H<sub>04</sub>:** Cash Conversion Cycle has no significant effect on financial performance of Nigerian breweries.

## **LITERATURE REVIEW**

### **Concept of Working Capital Management**

Harris (2005) points out that working capital management is a simple and straightforward concept of ensuring the ability of the firm to fund the difference between the short term assets and short term

liabilities. Pandey (2011) identifies two (2) concepts of working capital; gross working capital and net working capital. According to Pandey (2011), gross working capital refers to the firm's investment in current assets. These are the assets that can be converted into cash within an accounting year, while net working capital refers to the difference between current assets and current liabilities. He further explains that current liabilities are those claims of outsiders which are expected to mature for payment within an accounting year. In the similar study, Van Horne and Wachowicz (2004) argue that the components of an organization's working capital depend on the type of business and industry. They further narrate that cash, debtors, receivables, inventories, marketable securities, and redeemable futures are components of organization's working capital. In the study of Brealey and Myers (1996), components of working capital are current assets and liabilities. Current assets constitute cash, marketable securities, accounts receivable, inventories and other short term assets. While current liabilities components are short term loans, accounts payable, accrued income taxes, current payments due on long term debt and other short term liabilities (Sanusi, 2006).

Eya (2016) defines working capital as the funds locked up in materials, work in progress, finished goods, receivables, and cash and cash equivalent. Falope and Ajilore (2009) see working capital as the excess of current assets that has been supplied by the long-term creditors and the stockholders. According to Osisoma (1997), company's working capital requirements are determined largely by the length of operating cycle and the rate of flow of costs within the operating cycle. The rate of flow of the costs in turn depends on the volume of production and sales, and the costs associated with the production and sales activities.

According to Sanusi (2006), working capital is important because it serves as a pool of liquid assets which provides a safety cushion to creditors. It provides a liquid reserve with which to meet contingencies and the ever present uncertainty regarding a company's ability to balance its cash outlay with an adequate inflow of funds. It is a qualitative concept in the sense that it indicates the liquidity position of the firm and suggests the extent to which working capital needs may be financed by permanent sources of funds (Sanusi, 2006).

**Theoretical Review**

The study anchors on these theories because their relevant to this study as indicated in

Table 1

**Table 1: Theories of Working Capital Management**

Theories of Working Capital Management		Source
Economic Order Quantity Model	Economic order quantity model of inventory management assists the manufacturing organizations to establish an effective stock management practice to ensure a reliable sales projection to be used in ordering purposes.	Saleem and Rehman (2011)
Trade off Theory of Liquidity	The trade-off theory of liquidity suggests that firms target an optimal level of liquidity to balance the benefit and cost of holding cash. The theory assists the business organizations to get understanding the best practice of maintaining optimal level of liquidity.	Raheman, Afza, Qayyum and Bodla (2010)
Pecking Order Theory of Liquidity	The theory emerges as a result of asymmetric information existing financial markets, that is, corporate managers often have better information about the health of their companies than outside investors. The information and hedging channels increase equity-value of firms which helps to pay regular dividend and most importantly reduce volatility in cash flow.	Allen (1993)
Working Capital Cycle Theory	The theory states that working capital management following a cycle depending on the kind of company under analysis. Using such cycle, a company can determine its working capital needs at any point in time.	Brealey and Myers (1996)

**Empirical Review**

Researchers have divergent opinions on the impact of working capital management on financial performance of business organizations. For instance, Angahar and Alematu (2014) examine the impact of working capital management on profitability of Nigerian Cement Industry for a period of eight (8) years (2002-2009). Results show that there is insignificant negative relationship between the profitability (measured by ROA) and the number of days accounts receivable are outstanding. The study also finds a significant negative relationship between the profitability and the number of days inventory are held (DINV). The study finally reveals a significant positive relationship between the profitability and the cash conversion cycle (CCC). The study of Ojeani (2014), who examines the impact of working capital management on the profitability of Pharmaceutical firms listed on the Nigerian Stock Exchange market, reveals that account receivables collection management, accounts payables management, inventory management, cash conversion cycle management and operating cash flow management have significant impact on the profitability. In another study, Salawu and Alao (2014) examine the working capital management and the performance of selected quoted manufacturing companies in Nigeria, reveals that the average collection period, the average payment period, are positively and significantly related to profitability; inventory turnover in days, cash conversion cycle are also significant but negatively related to profitability.

Nzioki, Kimeli, Abudho and Nthiwa (2013) analyze how working capital management affects profitability of manufacturing firms listed at the NSE between 2006 and 2010. Results show a positive correlation between gross operating profit with average collection period and average payment period; however, there was a negative correlation with Cash Conversion Cycle. Gakure, Cheluget, Onyango and Keraro (2012) also analyze the relationship between working capital management and profitability of 15 manufacturing companies listed at the NSE between 2006 and 2010. The result reveals that there was a strong negative relationship between a firm’s liquidity and its performance. Result also shows a negative coefficient relationship between accounts collection period, average payables period, inventories holding period and profitability, while Cash Conversion Cycle exhibits a positive correlation with profitability.

**Explanation of variables and Model Specification**

To investigate the effect of working capital management on financial performance in Nigeria Breweries, working capital management is measured by (Inventory Conversion Period (ICP), Debtors’ Conversion Period (DCP), Creditors’ Conversion Period (CCP) and Cash Conversion Cycle (CCC)) while financial performance is measured by Return on Assets (ROA). Most similar studies that examined firms’ performance, employed ROA amongst the variables adopted for measuring firms’ performance such as Angahar and Alematu (2014), Ojeani (2014), Nzioki, Kimeli, Abudho and Nthiwa (2013) and among others. Return on Asset (ROA) measures how efficiently and effectively a company can manage its assets to earn profits in a financial year. In other words, it is a performance indicator of how effectively the firm’s investment in assets can yield profit.

**Table 2: Explanation of variables**

Variable	Definition	Calculation	Type of variable
The Inventory Conversion Period (ICP)	ICP is the time required to convert inventory into cash.	$\frac{\text{Average Stock Value}}{\text{Cost of Sales}} \times 365$	Independent
Debtors’ Conversion Period (DCP)	DCP is the time required to collect the cash from debtors.	$\frac{\text{Average Debtors}}{\text{Net Credit Sales}} \times 365$	Independent
Creditors’ Conversion Period (CCP)	CCP is the length of time the firm is able to defer payments on various resource purchases	$\frac{\text{Average Creditors}}{\text{Cost of Sales}} \times 365$	Independent
Cash Conversion Cycle (CCC)	CCC is the length of time between a firm’s purchase of inventory and the receipt of cash from accounts receivable	$CCC = ICP + DCP - CCP$	Independent
Return on Assets (ROA)	It is based on the relationship between the sales and total assets of a firm.	$\frac{\text{Net Sales}}{\text{Total Assets}} \times 100$	Dependent

**Model for the research variables**

The model for this study is a multiple regression model expressed thus:

$$ROA = f ( ICP, DCP, CCP, CCC ) .....eq1$$

$$ROA = \beta_0 + \beta_1(ICP) + \beta_2(DCP) + \beta_3(CCP) + \beta_4(CCC) + \mu_i .....eq2$$

Where:

ROA = Return on Assets

$\beta_0$  = Constant of the model

$\beta_1$ -  $\beta_4$  = Coefficients of the model

ICP = Inventory Conversion Period

DCP = Debtors' Conversion Period

CCP = Creditors' Conversion Period

CCC = Cash Conversion Cycle

$\mu_i$  = Random error term representing factors other than those specified in the model.

**METHODOLOGY**

**Sources of Data:** The data collected for this study were obtained through the Secondary source. The data used for analysis were extracted from the audited annual financial reports and accounts of Nigeria Breweries Plc from 2011-2016.

**Data Analysis Techniques:** Both descriptive statistics and inferential statistics were employed to analyse that data. The descriptive statistics was used to summarize the collected data in a clear and understandable way using numerical approach. The inferential statistics such as Pearson Correlation and Ordinary Linear square were used to examine the relationship between the dependent and independent variables. The choice of these techniques was because of their ability to account for several predictive variables simultaneously. Multicollinearity test was carried out to ensure that variance inflation factor (VIF) statistics filters the variables that might distort the results of regression analysis (Gujarati & Porter, 2008).

**Reliability and Validity:** Secondary data for the study were drawn from audited accounts of the Nigerian Breweries Plc as fairly accurate and reliable. Necessary checking and cross checking were done by the researchers. These efforts were made in order to generate validity data for the present study. In addition, Heteroskedasticity test was performed to ascertain the reliability of data used.

**RESULTS AND DISCUSSION**

**Table 2: Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Return on Assets	6	0.76	1.06	0.9067	0.11448
Inventory Conversion Period	6	54.75	76.65	66.9167	7.53941
Debtors' Conversion Period	6	14.60	25.55	20.0750	3.82815
Creditors' Conversion Period	6	175.20	233.60	203.8250	22.94057
Cash Conversion Cycle	6	80.60	142.55	116.5500	22.30343

**Source; Data Analysis, 2017**

Table 2 shows that average return on assets (ROA) is 90.67% with a maximum of 106% and a minimum of 76%. The standard deviation is 11.45%. This implies that for every one Naira worth of net investment, the Nigeria Breweries had made a gain of 76 kobo and had at best earned a maximum of N1.06. The average time taken for the Nigeria Breweries to pay its suppliers or creditors is 204 days, with a maximum of 233 days, minimum of 175 days and a standard deviation of 23 days. Inventory Conversion Period (ICP) has overall mean of 67 days with a maximum of 77 days and a minimum of 55 days. This means that on average, Nigeria Breweries holds inventory up to 77 days. Debtors' Conversion Period (DCP) has overall mean of 20 days with a maximum of 25 days and a minimum of 14 days. This implies that accounts collection period is up to 25 days. It also takes on average of 117 days for the Nigerian Breweries Plc to convert its input resources (CCC) into cash. It could take as long as 142 days and a minimum of 81 days to achieve this.

**Relationship between Working Capital Management and Financial Performance**

**Table 3: Correlation Matrix**

Variable	Mean	SD	1	2	3	4	5
ROA	90.6667	11.44844	1.000				
ICP	66.9167	7.53941	-0.067	1.000			
DCP	20.0750	3.82815	-0.154	0.185	1.000		
CCP	203.8250	22.94057	-0.526	0.297	0.077	1.000	
CCC	116.5500	22.30343	-0.830*	-0.609	-0.126	0.933**	1.000

\*Significant at 5% \*\* Significant at 1%

Source; Data Analysis, 2017

Table 3 reveals the relationship between the independent variables and dependent variable. Cash Conversion Cycle (CCC) and Return on Assets (ROA) are negatively correlated the value of -0.830 which is significant at 5 percent level of significance. This implies that as the cash conversion cycle increases, financial performance measured by Return on Assets decreases. Furthermore, results show that Inventory Conversion Period (ICP), Debtor Conversion Period (DCP) and Creditors' Conversion Period (CCP) have insignificant and negative relationship with Return on Assets (ROA) with  $r = -0.067, -0.154$  and  $-0.520$  respectively.

**Table 4: Regression Result**

Variable	beta	t-statistics	p-value
ICP	-0.671	-1.810	0.145
DCP	-0.150	-0.303	0.377
CCP	-0.861	-1.662	0.172
CCC	-0.639	-3.381	0.028

Source; Data Analysis, 2017

Table 4 reveals that CCC ( $t = -3.381$ ) has significant effect on financial performance measured by ROA at 5% level of significance. This implies that an increase in the number of day's cash conversion cycle by 1 day is associated with a decline in ROA. Therefore,  $H_{04}$  is rejected. This study is in line with work of Alao (2014) that cash conversion cycle (CCC) has significant but negative effect on profitability. In another study, Nzioki et al (2013) find that CCC has negative and significant influence on financial performance. However, the this finding is contrary to the findings of Angahar and Alematu (2014), Ojeani (2014) and Gakure et al (2012) that CCC has positive influence on financial performance.

On the other hand, ICP, DCP and CCP have negative impact on ROA but insignificant with  $t = -1.810, -0.303$  and  $-1.662$  respectively. Therefore,  $H_{01}, H_{02}$  and  $H_{03}$  are accepted. This study is consistent with Gakure et al (2012) that there is a negative coefficient relationship between accounts collection period, average payables period, inventories holding period and profitability.

**CONCLUSION AND RECOMMENDATIONS**

This study investigates the effect of working capital management on financial performance with specific reference to Nigerian Breweries Plc for the period of 2011- 2016. The study reveals that cash conversion cycle (CCC) has negative and significant relationship with the return on assets (ROA) at 5% level. This indicates that the higher the length day of cash conversion, the lesser the financial performance. This implies that firms' performance can be increased with short size of Cash Conversion Cycle. The study also confirms that there is negative but insignificant relationship between inventory conversion period (ICP), debtor conversion period (DCP), creditor conversion period (CCP) and Return on Assets. This implies that number of days inventory are held, number of days accounts receivable are outstanding and average time taken for the Nigeria Breweries to pay its suppliers or creditors have negative effect on its financial performance but not significant.

Based on these findings, the study recommends that the management of Nigerian Breweries Plc should reduce the number of days inventory are held in store, number of days accounts receivable are

outstanding and the accounts payable should be repositioned in order to reduce the cash conversion cycle. This will not only enhance financial performance but will boost image of the company and maximize returns to shareholders.

## REFERENCES

- Akinlo, O.O. (2011). The Effect of Working Capital on Profitability of firms in Nigeria: Evidence from General Method of moments. *Asian Journal of Business and Management Sciences*, 1(2), 130-135.
- Allen, D. E. (1993), 'The pecking order hypothesis: Australian evidence', *Applied Financial Economics*, 3 (2), 101-112.
- Angahar, P A., & Alematu, A. (2014). Impact of Working Capital on The Profitability of the Nigerian Cement Industry. *European Journal of Accounting Auditing and Finance Research* 2(7), 17-30.
- Brealey R.A and Myers S.C. (1996). *Principles of Corporate Finance*. New York: The McGraw-Hill Companies, Inc.
- Deloof, M. (2003). Does working capital management affect profitability of Belgian firms? *Journal of Business Finance and Accounting*. 30(3), 573-587.
- Dong, H. P. & Su, J. (2010).The Relationship between Working Capital Management and Profitability: A Vietnam Case. *International Research Journal of Finance and Economics*. 49, 59-67.
- Eya, C.I. (2016). Effect of Working Capital Management on the Performance of Food and Beverage Industries in Nigeria. *Arabian J. Bus Manag. Review*. 6: 244
- Falope, O. & Ajilore, T.O. (2009). Working Capital Management and Corporate Profitability: Evidence from Panel Data Analysis of Selected Quoted Firms in Nigeria. *Research Journal of Business Management*.
- Gakure, R., Cheluget, K.J., Onyango, J.A. & Keraro, V. (2012). Working Capital Management and Profitability of Manufacturing Firms Listed at The Nairobi Stock Exchange. *Prime Journal of Business Administration and Management*.2(9), 680-686.
- Hamid, B & Waqar, A ( 2013). Does Efficient Working Capital Management Enhance Profitability of Pakistani Firms? *Management and Administrative Sciences Review*. 2(6), 715-720.
- Harris, A. (2005), "Working Capital Management: Difficult, but Rewarding", *Financial Executive*. 21(4), 52-53.
- Gujarati, D.N. & Porter, D.C. (2008). *Basic Econometrics. 5th edition*. New York: McGraw-Hill.
- Lawal, A. A., Abiola, B. I and Oyewole, O.M . (2015).Effect of Working Capital Management on the Profitability of Selected Manufacturing Companies in Nigeria. *International Journal of Sciences: Basic and Applied Research*. 19(2), 370-386.
- Mathuva, D. (2009).The Influence of Working Capital Management Components on Corporate Profitability: A Survey on Kenyan Listed Firms. *Research Journal of Business Management*, 3 (2), 11-18.
- Mukhopadhyay, D. (2004), "Working capital management in heavy engineering firms – a case study", *Management Accountant*. 39(4), 317-323.
- Nzioki, P.M., Kimeli, S. K., Abudho, M. R. & Nthiwa, J. M. (2013). Management of Working Capital and its Effects on Profitability of Manufacturing Companies Listed at NSE, Kenya. *International Journal of Business and Financial Management Research*, 1, 35 - 42.
- Ojeani, N. R. (2014). Working Capital Management and Profitability of listed Pharmaceutical Firms in Nigeria. M.sc Thesis of Ahmadu Bello University, Zaria, Nigeria.
- Osisoma, B. C. (1997). "Sources and management of working capital". *Journal of Management Sciences*, Awka: Vol 2.
- Padachi, K. (2006). Trends of Working Capital Management and its Impact on Firm Performance: An analysis of Mauritian Small Manufacturing Firms. *International Review of Business Research Papers*, 2.(2), 45-58.
- Pandey, I. M. (2011). Working Capital Management. In I. M. Pandey, *Financial Management* (pp. 657-658). New Delhi: Vikas Publishing House PVT Ltd.

- Raheman, A., Afza, T., Qayyum, A., & Bodla, M.A. (2010). Working Capital Management and Corporate Performance of Manufacturing Sector in Pakistan. *International Research Journal of Finance and Economics.* 47, 151-163.
- Raheman, A., & Nasr, M. (2007). Working capital management and profitability case of Pakistan firms. *International Review of Business Research Papers.* 3 (1), 279-300.
- Salawu, R.O & Alao, J. A (2014). Working Capital Management and the Performance of Selected Quoted Manufacturing Companies in Nigeria (2000-2009). *Research Journal of Finance and Accounting.* 5 (14), 80-93.
- Saleem, Q., & Rehman, R. (2011). Impacts of liquidity ratios on profitability (Case of Oil and Gas Companies of Pakistan). *Interdisciplinary Journal of Research in Business* 1(7), 95-98.
- Sanusi, M. S (2006). An Evaluation of Working Capital Policies and their impact on Profitability of Firms. M.sc Thesis of Ahmadu Bello University, Zaria, Nigeria.
- Sharma, A. K. & Kumar, S. (2011). Effect of Working Capital Management on Firm Profitability. *Global Business Review,* 12(1), 159-173.
- Sunday, E. O, Abiola I. & Lawrencia, O. O. (2012). Working Capital Management, Firms' Performance and Market Valuation in Nigeria. *World Academy of Science, Engineering and Technology.* 2, 20-29.
- Raheman, A., Afza, T., Qayyum, A., & Bodla, M.A. (2010). Working Capital Management and Corporate Performance of Manufacturing Sector in Pakistan. *International Research Journal of Finance and Economics.* 47, 151-163.
- Van Horne, J.C. & Wachowicz, J. M (2004). *Fundamentals of Financial Management* (12th ed.). New York: Prentice Hall.