
1Oyedele, Oloruntoba (Ph.D); 2Adeniran, Olusegun John & 3Oluwatosin, Ezekiel O

1Department of Banking and Finance
Bowen University, Iwo, Nigeria

2Department of Banking and Finance
Osun State Polytechnic, Iree, Nigeria

3Department of Accountancy
Osun State Polytechnic, Iree, Nigeria

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

H₀₁: Inventory Conversion Period (ICP) has no significant effect on financial performance of Nigerian breweries.

H₀₂: Debtors’ Conversion Period (DCP) has no significant impact on financial performance of Nigerian breweries.

H₀₃: Creditors’ Conversion Period (CCP) has no significant influence on financial performance of Nigerian breweries.

H₀₄: 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 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. 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>
<thead>
<tr>
<th>Theories of Working Capital Management</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Economic Order Quantity Model</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Trade off Theory of Liquidity</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Pecking Order Theory of Liquidity</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Working Capital Cycle Theory</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>
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>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Calculation</th>
<th>Type of variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Inventory Conversion Period (ICP)</td>
<td>ICP is the time required to convert inventory into cash.</td>
<td>Average Stock Value X 365 Cost of Sales</td>
<td>Independent</td>
</tr>
<tr>
<td>Debtors’ Conversion Period (DCP)</td>
<td>DCP is the time required to collect the cash from debtors.</td>
<td>Average Debtors X365 Net Credit Sales</td>
<td>Independent</td>
</tr>
<tr>
<td>Creditors’ Conversion Period (CCP)</td>
<td>CCP is the length of time the firm is able to defer payments on various resource purchases</td>
<td>Average Creditors X 365 Cost of Sales</td>
<td>Independent</td>
</tr>
<tr>
<td>Cash Conversion Cycle (CCC)</td>
<td>CCC is the length of time between a firm’s purchase of inventory and the receipt of cash from accounts receivable</td>
<td>CCC= ICP +DCP-CCC</td>
<td>Independent</td>
</tr>
<tr>
<td>Return on Assets (ROA)</td>
<td>It is based on the relationship between the sales and total assets of a firm.</td>
<td>Net Sales X100 Total Assets</td>
<td>Dependent</td>
</tr>
</tbody>
</table>

Table 2: Explanation of variables
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

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Assets</td>
<td>6</td>
<td>0.76</td>
<td>1.06</td>
<td>0.9067</td>
<td>0.11448</td>
</tr>
<tr>
<td>Inventory Conversion</td>
<td>6</td>
<td>54.75</td>
<td>76.65</td>
<td>66.9167</td>
<td>7.53941</td>
</tr>
<tr>
<td>Period</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debtors’ Conversion</td>
<td>6</td>
<td>14.60</td>
<td>25.55</td>
<td>20.0750</td>
<td>3.82815</td>
</tr>
<tr>
<td>Period</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creditors’ Conversion</td>
<td>6</td>
<td>175.20</td>
<td>233.60</td>
<td>203.8250</td>
<td>22.94057</td>
</tr>
<tr>
<td>Period</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash Conversion Cycle</td>
<td>6</td>
<td>80.60</td>
<td>142.55</td>
<td>116.5500</td>
<td>22.30343</td>
</tr>
</tbody>
</table>

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.
Table 3: Correlation Matrix

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

*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 at the value of -0.830 which is significant at 5% 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 t-values of -0.067, -0.154 and -0.520 respectively.

Table 4: Regression Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>beta</th>
<th>t-statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICP</td>
<td>-0.671</td>
<td>-1.810</td>
<td>0.145</td>
</tr>
<tr>
<td>DCP</td>
<td>-0.150</td>
<td>-0.303</td>
<td>0.377</td>
</tr>
<tr>
<td>CCP</td>
<td>-0.861</td>
<td>-1.662</td>
<td>0.172</td>
</tr>
<tr>
<td>CCC</td>
<td>-0.639</td>
<td>-3.381</td>
<td>0.028</td>
</tr>
</tbody>
</table>

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 days’ cash conversion cycle by 1 day is associated with a decline in ROA. Therefore, H04 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-values of -1.810, -0.303 and -1.662 respectively. Therefore, H01, H02 and H03 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 average time taken for the Nigeria Breweries to pay its suppliers or creditors.
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


