Working Capital Management and Financial Performance of Listed Conglomerate Companies in Nigeria

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Keywords

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Abstract

This study examines the impact of working capital management on the financial performance of listed conglomerate companies in Nigeria for a period of ten (10) years (2005-2014). Data for the study were quantitatively retrieved from the annual reports and accounts of the studied companies. The study employed descriptive statistics to describe the variable while the relationships among the variables were established via correlation. Variable Inflation Factor (VIF) was used to determine the existence or otherwise of multi-collinearity while Ordinary Least Square (OLS) Regression was used to analyze the data. It was found that debtors collection period, creditors payment period and firm size were negatively related to return on investment while cash conversion cycle has positive but insignificant relationship with the financial performance of the studied companies. The study however, recommends among others that listed conglomerate companies should maintain the current debtors' collection period or further reduce it in order to continue to enhance financial performance.

1. Introduction

Every organization is established to achieve some specific objectives. However, these objectives vary from one organization or company to another. Service companies' objectives vary greatly from manufacturing and product distribution companies. While services are often pre-paid for or paid immediately after task completion, manufacturing and distribution of good may not be paid for immediately by the purchasers of such goods thereby creating a debtor creditor relationship. The survival of manufacturing 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.

In manufacturing and product distribution companies where raw materials and other component parts are supplied by vendors as well as finished good are supplied to customers usually on credit, the general and best practice is develop strategies for paying suppliers for a longer period and collecting payments from customers within the shortest period of time. Managers therefore, can increase firms" profitability by improving working capital management.

Suffice it to say that excessive levels of current assets may have a negative effect on firm's profitability whereas a low level of current assets may lead to reduction in liquidity and stock outs resulting from difficulties in maintaining smooth operations. Traditional concept of working capital is the different between current assets and current liabilities. Thus working capital management is an attempt to manage and control the current assets and the current liabilities in order to maximize profitability and proper level of liquidity in business.

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 and 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.

While a large number of studies both local and foreign have been well documented in the area of working capital management and the performance of firms, there exist a limited number of such studies in the conglomerate companies in Nigeria. This has however reduced the extent to which the findings of similar studies in unclassified firms could be generalized. In a bid to add to the existing few literatures in Nigeria through the incorporation of variables not captured in previous studies as giving proper sector classification of companies under study, this paper examines the impact of Working Capital Management on the financial Performance of Listed Conglomerate Companies in Nigeria for a period of ten (10) years, (2005-2014).

2. Objectives and Limitation of the Study

The primary objective of this study is to examine the impact of working capital management on the financial performance of listed conglomerate companies in Nigeria. The specific objectives of this study are:

 i. To examine the impact of Debtors' Collection Periods (DCP) on Return on Investment of Conglomerate Companies in Nigeria.

 ii. To determine the impact of Cash Conversion Cycle (CCC) on Return on Investment of Conglomerate Companies in Nigeria.

 iii. To assess the impact of Creditors' Payment Period (CPP) on Return on Investment of Conglomerate Companies in Nigeria.

This study is limited to listed conglomerate companies in Nigeria and as at December 2014, there are only six (6) companies registered under this sector for a ten (10) year period (2005-2010). The plausible reason for the few number of conglomerate companies as recorded hinges on the fact that the sector is relatively new, though with high growth potential. However, findings from this study though are strictly applicable to the studied companies but other related companies may find relevance in the findings and recommendations of the study.

2. Literature Review

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.

While the definition of working capital remains same among scholars, effective management of firms' working capital is what put firms apart. This is because, while some managers may exercise due care and diligence in the management of firm's current assets and current liabilities, other managers may result to the use of intuition, rule of thumb and personal judgment which could mare effective working capital management.

Organization's working capital components are categorized according to Arnold (2008) and Gitman (2009), into three main components. These are: Inventory management consisting of raw materials, work in progress and stock of finished goods; Accounts receivable and payable management which Accounts for amount recoverable and owed to other firms and individuals in the ordinary course of business of the firm (Feletilika, 2011) and finally cash management which requires the formulation of strategies to facilitate early collection of debt owe to the firm and delaying payments for credit by the firm (Block & Hirt, 1992 and Lantz, 2008). This enables firms to have adequate cash balances to discharge short term debt obligations when they fall due.

There are various ways of measuring working capital management in organizations. However, for the sake of this paper, the following working capital management measurements will be examined.

I. Debtors' Collection Period

This is the length of time it takes customers to whom goods and services are supplied to settle their debts. It represents the average number of days that it takes a company to receive payments from its customers (Lantz, 2008). There is a consensus among scholars that the shorter the debtor's collection periods, the better the financial performance of the firm. This has made many companies to devise strategies for shortening the debtors'

collection periods in order to improve both the company's level of liquidity as well as profitability (Boisjoly, 2009).

Debtors' Collection Period is measured by the Average accounts receivable divided by the net sales and then multiply the outcome by average number of days in a year which is usually taking as 365 days (Adamu, 2016).

II. Cash Conversion Cycle

Cash Conversion Cycle refers to the length of time in days between firm's payment for payables and collections for receivables. Account receivables are affected by the credit collection policy of the firm vis-à-vis the frequency of conversion of receivables into cash. Where there is a policy within the organization to grant customers a more liberal period, profitability may increase but at the expense of liquidity (Erik, 2012). Scholars are at consensus on the fact that shorter conversion period in days leads to better liquidity and profitability.

According to Gitman (2009), Cash Conversion Cycle is mathematically measured as: CCC = Average Account receivables + Average Inventories - Average Account Payable

III. Creditors Payment Period

Creditors' Payment Period (CPP) represents the average number of days it takes a company to pay its creditors/suppliers (Erik, 2012). Firms ordinarily prefer to delay payment for credit purchases while Supplies also play the game of inducing customers (debtors) to pay for credit purchases within the shortest period of time by offering cash discounts. Functionally, creditors payment period is represented by Average number of days accounts payable (Average accounts payable) divided by cost of goods sold multiplied by 365 days

From the conceptual review, it is clear that is a relationship between working capital management and firm performance. This study therefore relates the relationship between the dependent and independent variables used in this study through a conceptual framework shown in figure 2.1
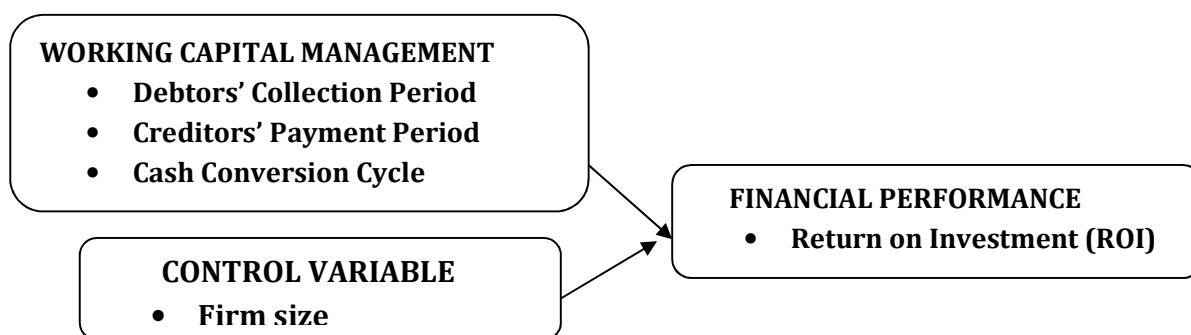
Figure 1. *Developed for the study*

Figure 1 shows that Working Capital Management mechanisms such as Debtors' Collection Period (DCP), Creditors' Payment Period (CPP) and Cash Conversion Cycle (CCC) affect financial performance of listed conglomerate companies in Nigeria. Also, Control Variable (Firm Size) was introduced into the study on the assumption that there are other factors that influence financial performance which may not be explained by working capital management proxies.

The relationship between working capital management and financial performance of firms is rooted in a number of theories. Such theories as examined in the works of Finau (2011), Adamu (2016) and Khalaf (2012) are:

Defensive working capital management theory which holds that companies strive to reduce risk by reducing current liabilities or maintaining excess working capital in order to take care of unforeseen contingencies. Also, Aggressive working capital management theory requires the entire estimates of current assets and part of fixed assets financing to be financed from short term sources and finally, conservative working capital management theory which is a position between defensive and aggressive theories of working capital management. It holds that firms need not be too aggressive by reducing the level of current assets as compared to current liabilities or too defensive by increasing the level of current assets as compared to current liabilities.

The choice of working capital management practice depends on the objective(s) to be achieved by companies. However, each practice has its costs and benefits as well environmental effect. To this end and for the purpose of this study, the conservative working capital management theory is adopted. This is as result of the fact that, the

Nigerian environment is highly volatile that future cash flow, demands and general price cannot be objectively ascertained and predicted and excess cash cannot be tied down for unforeseen contingences due its associated high cost. Hence, the rejection of both aggressive and defensive theories for conglomerate companies in Nigeria.

The following are the positions of scholars with respect to Debtors' Collection Period (BCP), Cash Conversion Cycle (CCC), Creditors Payment Period (CPP) and Financial Performance using Return On Investment (ROI) as proxy for financial performance.

Samiloglu and Demirgunes (2008) examined the effect of working capital management on company profitability of listed manufacturing companies in Istanbul Stock Exchange for the period ten (10) years (1998-2007). Cash Conversion Cycle and Accounts Receivable Period were used as proxies for Working Capital Management, while Return on Investment was used as measure of financial performance. The results of regression analysis showed that Debtors' Collection Period and Cash Conversion Cycle have significant negative relationship with Return on Investment.

Similarly, Muhammed (2015) examined the effects of Working Capital Management on firms' profitability: a comparative study on Middle East and West Europe companies. The result of the regression analysis showed that Debtors' Collection Periods has negative and insignificant relationship with firms' profitability. Cash Conversion Cycle has no significant relationship with firms' profitability. However, Creditors' Payment Period has significant positive relationship with firms' profitability.

Shadrack, Jane, & William, (2015) examined the effects of working capital management and financial performance of tourist hotels in Mombosa country, Kenya. While Return on Investment (ROI) was used as a measure of profitability, Debtors' Collection Period, Creditors' payment period and Cash Conversion Cycle were used to measure working capital management. The correlation matrixes showed that Debtors' Collection Period and Cash Conversion Cycle have significant negative relationship with Return on Investment. However, Creditors' Payment Period has significant positive relationship with financial performance. These positions are in consonance with the study of Vincent (2012) who also found a significant negative relationship between Debtors' Collection Period, Cash Conversion Cycle and Financial Performance of manufacturing companies in Kenya.

Also, Timothy and Alex (2016) examined the influence of Working Capital Management on Financial Performance of Small Enterprises in Nakuru Country. The study found a significant positive relationship between Credit Payment Period and financial performance of Nakuru Small Enterprises.

Cyprian, Jomo and Tobias (2014) assess the effects of Working Capital Management on the performance of forms listed on the Nairobi Securities Exchange. The result of the study revealed a significant positive relationship between Creditors' Payment Period and financial performance.

Adamu (2016) examined the effects of working capital management on the financial performance of pharmaceutical firms in Nigeria. The regression results indicated that Cash Conversion Cycle and Return on Investment are significantly and inversely related. Also, Faith and Ela (2016) reported significant negative relationship between Cash Conversion Cycle Debtors' Collection Period and profitability of companies.

Finally, Tanveer, Muhammad, Muhammad, Muhammad & Sadat (2016) studied the impact of working capital management on the financial performance of 50 listed non-financial companies in Pakistan. The study employed Cash conversion Cycle, Debtors' Collection Period, Creditors' Payment Period and Firm Size as proxies for working capital management and control variable respectively. Financial performance was measured by Return on Asset and Return on Investment. The regression result revealed that Cash Conversion Cycle, and Creditors' Payment Period as well as Firm size have significant positive relationship with financial performance while, Debtors' Collection Period has significant negative relationship with financial performance.

3. Methodology

This section discusses the research design, population and sample size, method of data collection, methods of data analysis variable specification and measurement.

3.1 Research Design

This study employs ex-post facto research design using panel data for the periods under study 2005-2014 as it allows for the collection of past and multi-dimensional data which provide basis for the full establishment of the relationship between working capital management and the financial performance of conglomerate companies in Nigeria.

The study used all the listed conglomerate companies which by virtue of being listed are expected to imbibe good working capital management practice. As at December, 2014, only six (6) companies were listed on the Nigeria Stock Exchange under Conglomerates. The table below therefore, shows the list of those companies together with their year of listing.

Table 3.1: Showing the listed Conglomerate Companies

Name of Company	Year of Listing
Ag Leventis Nig Plc	1978
Chellarams Plc	1974
John Holt Plc	1974
Scoa Nig Plc	1977
UACN Plc	1974
Transnational Corporation Plc	2006

Source: Generated from NSE fact book, 2014

From the above listed companies, a filter method of selecting a sample was employed in line with years of coverage of the study (2005-2014) and for any company to pass through the filter, such company must have been listed before 2005 and remain listed up till December, 2014. To this end, Transnational Corporation was listed in 2006 and hence removed from the sample leaving the remaining five other companies that fulfilled the filtering criterion as the sample size.

3.2 Variables Specification and Measurement

Variables used in this study are Independent (Working Capital Management) and Dependent (Financial Performance) variables respectively. These variables together with the measurements are shown in table 3.2

Table 3.2 showing variables and measurements

Variables	Measurements
Dependent: Return on Investment (ROI)	Measured by dividing the net profit after tax by the total assets
Debtors' Collection Period (DCP)	Average accounts receivable divided by the net sales and then multiply by average number of days in a year.
Cash Conversion Cycle (CCC)	It is the difference between the sum of inventory period and receivable period (operating cycle) and payment period
Creditors Payment Period (CPP)	total Purchases for the period divided by average account payable multiplied by 365 days
Control Variable: Firm size (FS)	natural logarithm (nlog) of each company's total assets

Source: Developed by the Authors.

3.3 Method of Data Collection and Data Analysis

The data used in this study were quantitatively generated from the audited annual financial statements of the five (5) studied companies covering a period of ten (10) years (2005-2014). This method of data collection was adopted because it befits the research design which requires the use of past and documented facts as basis for performance evaluation.

This study used descriptive statistics such as: Measure of Central Tendency (Mean), Measure of Dispersion (Standard Deviation) to assess the spread of the variables among the studied companies, minimum as well as maximum values for the variables. Multicolinearity test among the variables was checked via Variable Inflation factor (VIF). Finally both Correlation and Ordinary Least Square (OLS) Regression analysis was used to analyze the data and the results of the regression analysis were also used to test the formulated hypotheses.

3.4 Model Specification

This study adopts and modifies the econometric model used by Daniya, Adeyeye and Yahaya (2016) which is given as follows:

$Y_{it} = a_0 + \beta_1 CG_{it} + \beta_2 C_{it} + e_{it}$

Where: Y_{it} represents Financial Performance Variable; Return on Assets (ROA) for companies in time t, a_0 is the constant term, CG_{it} is a vector of Corporate Governance Variables; Board Size (BS), Board Composition (BC) and Audit committee size (AC) C_{it} is a vector of control variable 'Size of the firm' (FS) and e_{it}, is the error term.

The model is modified to incorporate the variables for this study. That is, Return on Investment(ROI), Debtors Collection period (DCP), Cash Conversion Cycle (CCC) and Creditors Payment Period (CPP). The model for the study is therefore shown below.

$ROI_{it} = a_0 + \beta_1 DCP_{it} + \beta_2 CCC_{it} + \beta_3 CPP_{it} + \beta_4 FS_{it} + e_{it}$

4. Data Presentation and Analysis

This section deals with the presentation, analysis and discussion of data collected from secondary sources from the annual reports and accounts of listed Conglomerate Companies in Nigeria.

4.1. Data Summary

Table 4.1 shows the summary statistics of the variables for the study

Table 4.1

Variables	Observations	Mean	Std Dev	Minimum	Maximum
ROI	50	0.4169662	2.264373	-6.887752	11.675
DCP	50	131.7253	278.5523	-10.49871	1888.5
CPP	50	142.6306	189.7418	3.675098	789.3646
CCC	50	70.1907	87.39778	-157.1606	349.1525
FS	50	21.64138	1.769671	16.64814	23.78868

Source: *Generated from the financial statements of the studied companies using stata11*

Table 4.1 shows the summary of the data collected from the published annual financial statements of the five (5) conglomerate companies under study for a period of ten (10)

years. The mean value for Debtors' Collection Period is 132 with a standard deviation of 278 and maximum and minimum values of -10 and 1,888 respectively. The mean value shows that the average Debtors' Collection Period among the studied companies is low considering the maximum value of 1,888 and this vary greatly among the studied companies with a standard deviation of 278 which is higher than the mean value.

Also, Creditors' Payment Period is relatively high with a mean value of 142 when compared with the maximum value of 789. This suggests that creditors allow the studied companies more number of days to settle their bill. The number of days allowed for settlement of credit also varies also among the bank with a dispersion value of 189. This reveals that while some companies are giving longer period to settle their accounts others settle their within the shortest possible time.

The Cash Conversion Cycle has a mean value of 70 which shows that gestation period between cash outlay and inflow is very high when considered from both the angles of minimum and maximum values. However, the Cash Conversion Cycle of the companies under study vary greatly with a standard deviation of 87. This implies that while the average Cash Conversion Cycle is high, some companies still hover around higher Cash Conversion Cycle.

Generally, all companies under study have robust asset base with a mean value of 21 which is almost same across the companies owing to very low value of dispersion of 1.7.

The summary for the standard deviation reveals that factors that influence financial performance are unevenly distributed across all the studied companies except for the Firm Size.

4.2 Test of Multicollinearity

The existence of multicollinearity as well as the degree of relationship was assessed using correlation and Variable Inflation Factors (VIF)

i.   Correlation matrix for the variables

The correlation result for the variables is presented in table 4.2

Table 4.2

Variables	ROI	DCP	CPP	CCC	FS
ROI	1.0000				
DCP	-0.0641	1.0000			
CPP	-0.1458	0.4859	1.0000		
CCC	0.0582	0.0643	-0.1732	1.0000	
FS	-0.2469	-0.2781	-0.3994	0.1918	1.0000

Source: Generated from the financial statements of the studied companies using stata11

From table 4.2, both Debtors Collection Period (DCP) and Creditors payment Period (CPP) are negatively related to Return on Investment (ROI) while Cash Conversion Cycle (CCC) is positively related to ROI. Firm Size is negatively related ROI. These show that a reduction in Debtors collection period and firm size will enhance the financial performance to the studied companies. However, an increase in cash conversion will enhance performance by 5%.

Generally, there is no high correlation among the variables as the highest relationship of 0.48 which exist between Creditors' Payment Period and Debtors Collection Period is lower than the threshold of 0.8 suggested by Gujarati (2004). This is therefore an indication of high predictive power of each independent variable.

ii. Test of multi-collinearity using Variable Inflation Factor (VIF)

The existence of multi-collinearity among the variables was further confirmed through VIF test, the result of which is shown in Table 4.3.

Table 4.3

Variables	VIF	1/VIF
DCP	1.37	0.666257
CPP	1.50	0.728445
CCC	1.09	0.810701
FS	1.23	0.917962
Mean VIF	1.30	

Source: Generated from the financial statements of the studied companies using stata11

Multi-collinearity exists when the predictor variables are themselves highly correlated. If the variables have VIF of above 10 and TV less than 0.10, then there is a strong indication of the existence of excess correlation, Gujarati (2004). With the above values of VIF, all of which are less than 10 and the values of TV (1/VIF) which are also more than 0.10, there is therefore absence of multi-collinearity.

4.3 Regression Result

The result of Ordinary Least Square Regression is shown in the Table 4.4

Table 4.4

ROI	Coef.	Std. Error	T	P>|t|
DCP	-0.0004113	0.0013165	-0.31	0.756
CPP	-0.0030788	0.0020209	-1.52	0.135
CCC	0.0023297	0.0037378	0.62	0.536
FS	-0.4878545	0.1964291	-2.48	0.017
Cons.	11.3046	4.340341	2.60	0.012

$R^2 = 0.1402$

Source: *Generated from the financial statements of the studied companies using stata11*

The regression results presented in Table 4.4 show an R^2 of 0.14 (14%) which implies that the independent variables used in this study can predict the financial performance of conglomerate companies in Nigeria by 14% while other variables not captured by the independent variables account for 86%. This implies that model for the study is weak and statistically insignificant. The regression results reveal that Debtors' Collection Period, Creditors Payment Period and Firm Size are negatively related to Return on Investment. While the relationship between: Debtors' Collection Period, Creditors' Payment and Return on Investment is statistically insignificant, that of firm size is statistically significant. This shows that most of the conglomerate companies in Nigeria been able to improve their financial performance by Reducing both Collection Period and Payment Period. This finding

is consistent with the study of (Faith & Ela, 2016). The reduction in collection period enables companies to have adequate cash to run business operations daily.

Also, the negative relationship between Creditors' Payment Period and Financial Performance shows that financial performance improves when companies settle their debt on time. This practice may help to protect the companies' credit image and rating as well as better opportunity to access further credit facilities. With respect to Firm Size, the result shows that bigger companies in terms of asset size have not been able to improve their financial performance with their robust asset size as other companies within industry with reduced asset base

Cash Conversion Cycle has positive and insignificant relationship with Return on Investment which implies that the higher the conversion cycle the better the financial performance. This finding is not consistent with the finding of (Tanveer, et al 2016).

5. Conclusion

The relationship between working capital management and financial performance of listed conglomerate companies in Nigeria from 2005 to 2014 has been fully explored using data collected from the financial statements of five (5) out of the six (6) listed companies under conglomerate. It was discovered that Debtors' Collection Period, Creditors' Payment Period are negatively related to financial performance of the companies while cash conversion cycle is positively related to financial performance. This shows that the conglomerate companies have effective strategies for ensuring quick collection of cash for credit sale and also settle their debts within the shortest possible time. Also, as cash conversion cycle increases among the companies, financial performance improves.

Consequent upon the findings of this study, it is recommended that conglomerate companies should continue to maintain or reduce further, the Debtors' Collection Period so as to be liquid enough to finance short term debt obligation. Also, Creditors Payment Period should be maintained as it is, since it is currently enhancing financial performance of the studied companies. Effective working capital management practice is not a function of how big a company is and hence should not be relied upon for financial performance of conglomerate companies in Nigeria.

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