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WORKING CAPITAL AND FINANCIAL PERFORMANCE OF QUOTED MANUFACTURING COMPANIES IN NIGERIA

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ABSTRACT

This study investigated the impact of working capital on financial performance of quoted manufacturing companies in Nigeria. To achieve this, research questions were raised, hypotheses were formulated, and a review of the extant literature was made. In this study, the descriptive research design was adopted and data were obtained from the financial statements of the selected manufacturing companies in Nigeria. This study used the historical quantitative data obtained from financial statements of the companies from 2010 to 2015.The dependent variable in this study was measured by Return on Assets while the independent variable working capital management was operationalized as average collection period and cash conversion cycle. The multiple regression analysis was employed which was used to establish the relationship between the independent variables of working capital: cash conversion cycle, and average collection period and the dependent variable which is return on assets. Our findings revealed that the profitability of the manufacturing firms listed on the Nigerian Exchange Stock during the study period was significantly influenced by the cash conversion cycle and average collection period. In view of the above, it was recommended that managers should focus on reducing cash conversion cycles and try to collect receivables as soon as possible because it is better to receive inflows sooner than later thereby increasing the firms' profitability.

Keywords: **Working capital management, cash conversion cycle, average collection period, financial performance, quoted manufacturing companies**

INTRODUCTION

Onodje (2014) observed that the performance of Nigeria's manufacturing sector has been declining over the years. This downward trend has been noticeable since the early period of the 1980s. This was concluded by the Central Bank of Nigeria in their statistical bulletin that showed that the share of manufacturing sector contribution to the Gross Domestic Product (GDP) fell from 11.0% in 1980 to 4% in 1998, stagnating around 4% up to 2012. Because of this outcome Nigeria had greatly relied on foreign manufactured goods following the low production of the locally made ones. The practically stagnant manufacturing sector has negatively impacted on the Nigerian economy over the years.

According to Manufacturing Association of Nigeria (MAN, 2009) about 857 manufacturing companies have either closed down their operations in Nigeria or relocated to other neighboring countries since 1999. The development has contributed immensely to the high unemployment rate in Nigeria through retrenchments and contraction of job openings to job seekers.

In a survey of the performance of the Nigerian manufacturing sector conducted by Malik, et al., 2006) it was reported that access to credit is the most significant issue in Nigeria's manufacturing sector performance. Various reasons have been offered by different authors as to why the performance of the manufacturing sector in Nigeria is declining. They include: production, inflationary environment and poor infrastructure (Akinlo, 1996; Adenikinju, 1999; Bankole, Lawanson & Aminu, 1999; Okaro, 2004).

Another study by Ali (2011) on the Stockholm Stock Exchange showed no significant relationship between working capital management and financial performance. Most business organizations do not hold the right amount of stocks, debtors and cash. Due to this reason, the firm is unable to meet its maturing short-term obligations and its upcoming operational needs. These different results show clearly that the relationship between working capital management and financial performance is not universal. Previous studies showed that there is a significant negative relationship between working capital management and firm financial performance. The present study investigates the relationship between working capital management components and firm's financial performance. Therefore, this study is similar to other research already conducted by scholars and an attempt would be made to examine the effect working capital management has on quoted manufacturing firms in Nigeria.

In view of the above, the following questions are raised:

- To what extent does cash management influence financial performance of quoted manufacturing firms in Nigeria?
- To what extent does account receivables management influence financial performance of quoted manufacturing firms in Nigeria?

Research Hypotheses

$H0_1$: There is no significant relationship between cash management and financial performance of quoted manufacturing firms in Nigeria.

$H0_2$: There is no significant relationship between management of debtors and financial performance of quoted manufacturing firms in Nigeria.

Conceptual Framework

Working capital management focuses on the management of such current assets like debtors or account receivables, inventories and cash and cash equivalents and it's been established that good management of current assets enhances working capital management. Working capital management calls for the effective management of working capital which is critical to the survival of any business organization.

Conceptual Framework

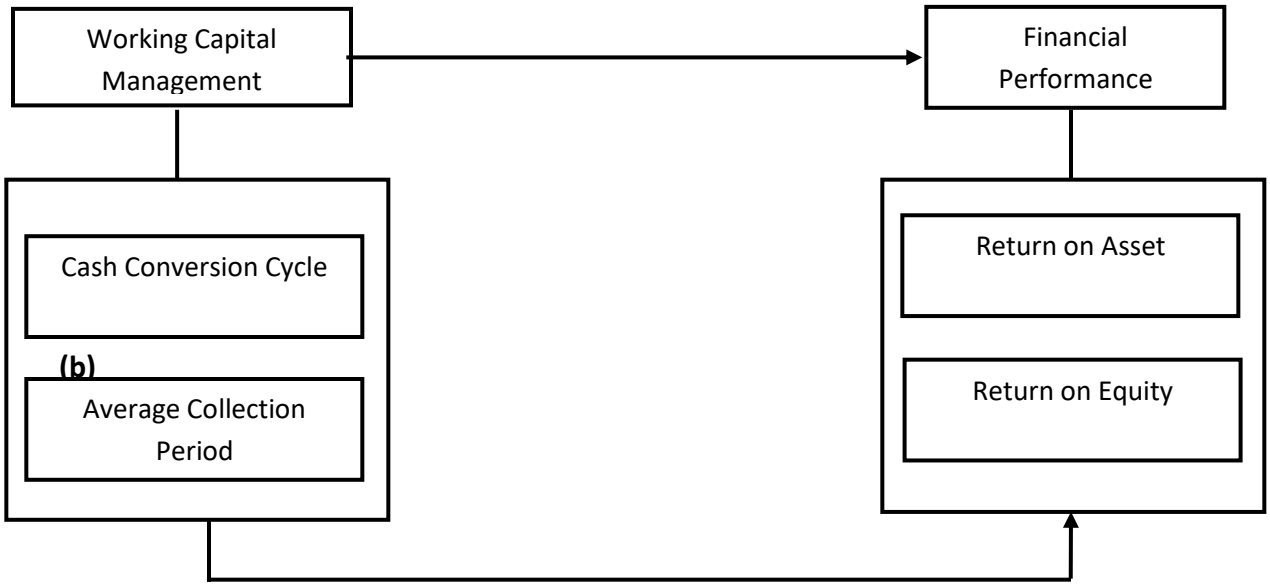

Figure 1.1: Conceptual framework showing the relationship between working capital management and financial performance

Theoretical Review

Working capital means the funds that are required to meet the daily transactions of the business. In other words, it refers to that part of the firm's capital which is required for financing current assets such as cash, marketable securities, debtors and inventories. Working capital is the capital that managers can immediately put to work to generate the benefits of capital investments (Frank & Pamela, 2003). Working capital is the most important and vital resource of any organization. Alu (2012) stated that "resources available to organizations' are scarce, it is believed that the management of an organizations working capital has a pivotal role to play in the achievement of profitability and overall performance of such an entity". Ngwenya (2012) stated that for companies, in order for them to maximize shareholders wealth and also be competitive, there is need for effective working capital management. Effective working capital management plays a very vital role in the success of any business.

Working capital management is the effective and efficient administration of all components of working capital; cash, marketable securities, debtors, stock and creditors. Raheman and Nasr (2007) deemed working capital management (WCM) an essential tool that is popularly used to measure both the operational and financial efficiency of firms.

Working capital management ensures that a company has sufficient cash flow in order to meet its short-term debt obligations and operating expenses. Implementing an effective working capital management system is an excellent way for many companies to improve their earnings (Kamau Ayuo, 2014).

Every business concern should have adequate working capital to run its operations smoothly. It should have neither excess working capital nor inadequate working capital because both have adverse effects on firm's performance and liquidity positions. Therefore, every business concern should be to maintain an adequate working capital. The basic objective of

working capital is to manage the firm's current assets and current liabilities in such a way that a satisfactory level of working capital is maintained.

The significance of working capital management is to ensure that organizations maintain a 'worthy fit' with the changing environment and strives to build the capability to cope with challenges. Working capital makes a business to run effectively and efficiently that is why there's always a need for organizations to give a good and proper attention to the management of their working capital.

Working capital management is important for creating wealth for shareholders (Amarjit, Nahum & Mathur, 2010). "The management of working capital involves managing inventories, accounts receivable and payable, and cash" (Maneval, 2016). And according to Brigham and Daves (2002), "working capital management involves both setting an effective working capital policy in day to day operations".

There are two concepts of working capital and they are, gross working capital and net working capital. Gross Working Capital refers to the firm's investment in current assets and Net Working Capital refers to the difference between current assets and current liabilities and it can be negative or positive. The two concepts of working capital gross and net are not exclusive; rather they have equal significance from the management's view point (Pandey, 2007).

There are two kinds of working capital, they are;

- Permanent working capital
- Temporary working capital

Both kinds of working capital- permanent and temporary are necessary to facilitate production and sale through the operating cycle.

Permanent or fixed working capital is the minimum level of current assets. Depending on the changes in the production and sales the need for working capital over and above the permanent working capital will fluctuate. For example, extra stock of finished goods will have to be maintained to support the peak periods of sale and during such period's investments in debtors may also increase.

Variable or temporary working capital is the extra working capital needed to support the changing production and sales activities of the firm. Pandey (2010) identified the determinants of working capital as follows:

1) Nature of the Business; Working capital requirements are often influenced by the nature of the business. A company's working capital requirements are basically related to the kinds of business it conducts. Generally making, trading and financial firms require relatively large amounts of working capital, public Eilities comparatively small amounts whereas manufacturing concerns stand between these two extremes.

2) **Technology and Manufacturing Policy:** A manufacturing cycle comprises of purchase and use of raw materials into finished goods. The longer it takes for this to be done the larger will be the firms working capital requirements. An extended manufacturing time span means a larger tie up of funds in inventories. Any delay in the manufacturing process will result in the accumulation of work-in-progress and wastage of time.

3) Credit Policy: Credit policy affects the working capital of a firm by influencing the level of debtors. The credit terms to be granted to customers may depend upon norms of the industry that the firm belongs to. However, a firm has the flexibility of shaping its credit policy without

going outside the constraint of the industry. The firm should be prompt in making collections because a high collection period will mean tie up of large funds in debtors and the opposite can result to a high chance of bad debts. Any case of delayed payments should be thoroughly investigated.

4) Availability of Credit from Suppliers: The working capital requirements of a firm are also affected by credit terms granted by its suppliers. Suppliers' credit finances the firm's inventories and reduces the cash conversion cycle. The absence of this would mean that the firm would borrow their funds from the bank. However, a firm without the suppliers' credit but which can get bank credit easily on favorable conditions will be able to finance its inventories and debtors without much difficulty.

5) Operating Efficiency: The operating efficiency of the firm relates to the optimum utilization of all its resources at minimum costs. The efficiency in controlling operating costs and utilizing fixed and current assets leads to operating efficiency. The use of working capital is improved and pace of cash conversion cycle is accelerated with operating efficiency. It may not be possible for a firm to control the prices of its resources but can mostly control the efficiency and effectiveness of its uses.

6) Price level changes; The increasing shifts in price level make the functions of financial manager difficult. The management should anticipate the effect of price level charges on working capital requirements of the firms. Inflation will require a firm to maintain higher amount of working capital. However, companies that can immediately revise their product prices with rising price levels will not face a severe working capital problem.

Empirical Review

The importance of working capital management has been a common view among researchers' (Ogundipe. Idowu & Ogundipe, 2012). The concept of working capital management has been in existence for years and many researches have been carried out in this field (Adernola, 2014). Different variances have been used to understand the Feet working capital has on performance and profitability of a firm. In literature, traditional Munition of working capital is current assets minus current liabilities (Preve & Sarria-Allende, 2110).

Salman, Folayin and Oriowo (2014) investigated the relationship between working capital management on organizations performance in Nigeria with special reference to manufacturing companies quoted on the Nigerian Stock Exchange. Primary/Secondary data was used. They compiled 20 manufacturing firms for the period of 2005-2013. They adopted the panel data methodology. Data was analyzed using Pearson correlation moment coefficient and multiple regression. The result showed that working capital management has negative and significant relationship with the return on assets (ROA) and return on equity (ROE) at 5% level.

Omolade and Mukolo (2013) examined the impact of working capital management on organization performance in Nigeria. They selected quoted company across different industry using ordinary least square method and multiple regression analysis as its estimating technique. They discovered that while six of the company used showed a negative relationship between working capital management and organizations performance, four of them showed a positive relationship. It was also discovered that working capital of all the ten companies do not have the same impact on their performance during the period under review.

Varal, Sokmen and Cetenak (2012) investigated the relationship between working capital management components and a firms' performance using the dynamic panel data analysis. Data was extracted using secondary source. 75 manufacturing firms where sampled from the Istanbul stock exchange market for the period of 2002-2009 with an attempt to investigate the relationship between working capital management components and performance of firms. They used the dynamic panel data analysis. Their results showed that firms can increase profitability measured by gross operating profit by shortening collection period of debts and cash conversion cycle.

Onodje (2014) investigated the effects of internal financial activity of working capital management on performance of Nigerian firms. With reference to manufacturing firms quoted on the Nigerian stock exchange. Data was extracted using secondary source and 75 manufacturing firms where sampled for the period of 2002-2011. He found out that working capital management is an important determinant of manufacturing performance in Nigeria. Babaton and Khadijah (2012), in their study they investigated the impact of aggressive working ipital on manufacturing companies in Nigeria. This study was based on the data gathered from 10 manufacturing companies in the Nigerian Stock Exchange during 2006 to 2010. They checked whether there is any correlation between companies' performance (return on assets, return on equity) and working capital aggressive variables (current assets, total assets and current liabilities, total assets).

These correlations were assessed using multiple linear regression statistical analysis tools. Manufacturing companies were selected using sampling. The results show that there is a positive correlation coefficient between return on assets, aggressive current assets and aggressive current liabilities, which both have a negative correlation coefficient with return on equity. Thus, when aggressive current assets are used, return on assets will increase and there will be less risk. Some authors have stated that there is a difference between working capital and net working capital.

Raheman and Nasr (2007) deemed working capital management (WCM) an essential tool that is popularly used to measure both the operational and financial efficiency of firms. Working Capital Management is concerned with the problems arising consequent upon the attempts to manage the Current Assets, Current Liabilities and the interrelationship between them.

Kamau and Ayuo (2014) investigated the relationship between working capital management and organization performance (represented by profitability/returns) of manufacturing firms in Etdoret municipal in Kenya. They sampled 13 manufacturing firms and historical data was collected from the annual financial statement of the firms for the period of l0 years. They made use of correlation and regression analysis. Their findings revealed that working capital management is negatively correlated with return of assets and return of equity consisting of the r values of .148 and 0.231 respectively.

In the 1980's working capital management was compartmentalized (Sattoris & Hill, 1983) and divided in cash, account payables and account receivables. In most firms, these compartments were managed by different managers on various organizational layers. But Sartoris and Hill argued that there was a need for an integrated approach, where all the three

compartments are combined. This led to the integration of the management of inventories, account payables and account receivables, now called working capital.

Conceptual Review

The Concept of Working Capital

Nurein (2014) and Finau (2011) defined working capital as the excess of current assets over current liabilities. This definition actually brought together the basic tenets of working capital (current assets and current liabilities). There is a consensus among scholars with respect to the definition of working capital which is an amount of money available to finance the organization's short-term debt obligation. The availability of this short-term fund is a function of excess of current assets over current liabilities. 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 mar effective working capital management. This was measures with cash conversion period and average collection period.

Cash Conversion Cycle

The cash conversion cycle has been defined inconsistently. Home and Wachowicz (2001) defines cash conversion cycle as the length of time from the actual outlay of cash for purchases until the collection of receivables resulting from the sale of goods and services. Stewart (1995) described CCC as the average days required to turn a dollar invested in raw material into a dollar collected from a customer. Gallinger (1997) used the operating cycle and defined CCC as a measure of the number of days the firm's operating cycle requires costly financing to support it. Moss and Stine (1993) described CCC as the number of days between accounts payable and accounts receivable. Keown et al. (2003) defined CCC as the sum of days sales outstanding (average collection period) and the days of sales in inventory less days of payables outstanding. Jordan (2003) identified the cash cycle components as: average age of inventory, average collection period of accounts receivable and, average payment period of accounts payable. Calculating the cash cycle requires determining the number of day's cash is invested in each of the cash cycle components.

Average 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'

Financial Performance

Melvin and Hirt (2005) define performance as the development of share price, and profitability or the present value of a company. Jeon and Miller (2006) argue that the performance gives an extremely greater impact on a firm in determining the healthy level either positive or negative. Bacidore et al. (1997) demonstrates the significance of performance by arguing that executive compensation should be tied to company performance because if

managers are offered compensation contracts that are tied to shareholder wealth changes, their incentives will be better aligned with those of shareholders than is the case for other types of contracts.

Several measures of financial performance are available such as: the stock price itself (Jensen & Murphy, 1990), the economic value added (EVA) (Stewart, 1991), return on investment (ROI) (Reese & Cool, 1978), the earning per share (EPS) (Ross et al., 1993), real options (Myers, 1984) and the discounted cash flow (DCF) (Kaplan, 1983). But this study measured financial performance with return on asset and return on equity.

Return on Asset (ROA)

Investors and managers often are more interested in the profits earned on capital invested than in the level of profits as a percentage of sales. Companies operating in capital-intensive industries often have attractive profit margins but are often less inspiring when the amount of capital absorbed is considered. Therefore, it is useful to examine both the level of and the trend in the company's operating profits as a percentage of total assets. In order to improve the comparisons with other companies, and over time, it is useful to use earnings before interest after tax (EBIAT). This allows one to focus on the profitability of operations without any of the effects of the way in which the assets are financed (Bertoneche & Knight, 2001).

This ratio explains that how efficient a company is to utilize its available assets to generate profit. It calculates the percentage of profit a company is earning against per dollar of assets (weston & brigham, 1977). The higher value of ROA shows the better performance and it can be computed as follows: ROA = (Earnings Available for Common Stockholders / Total Asset)*100 Gross Operating Profit (GOP): this ratio explains that how efficient a company is to utilize its operating assets. This ratio calculates the percentage of profit earned against the operating assets of the company (Weston & Brigham, 1977). Gross Operating Profit = (Sales – COGS) / (Total asset –financial asset).

Return on Equity (ROE)

Rappaport (1986) assert that return on equity (ROE) with return on assets (ROA), is one of the all-time favourites and perhaps most widely used overall measure of corporate financial performance. This was confirmed by Monteiro (2006) who stated that ROE is perhaps the most important ratio an investor should consider. The fact that ROE represents the end result of structured financial ratio analysis, also called Du Pont analysis (Stowe, Robinson, Pinto and McLeavy (2002); Correia, Flynn, Uliana and Wormald, 2003; Firer, Ross, Westerfield and Jordan, (2004) contributes towards its popularity among analysts, financial managers and shareholders alike. These ratios cover the categories of profitability, asset management and financial structure.

Instead of regarding return on equity as the point of departure, one could also view it as the final result of structured financial ratio analysis (Firer et al., 2004). Return on equity is calculated by taking the profit after tax and preference dividends of a given year and dividing it by the book value of equity (ordinary shares) at the beginning of the year.

METHODOLOGY

Okwandu (2002) noted that a research design is a set of methods and procedures used to collect data and analyze measures of the variables specified in the research design. Research design seeks to answer the questions what, where, when, how and by what means data would be generated to provide the solutions for the study. In this study, the descriptive research design was adopted and data were obtained from the financial statements of the selected manufacturing companies in Nigeria. This study used the historical quantitative data obtained from financial statements of the companies from 2010 to 2015.

The following variables were used during the course of the study. The dependent variable was Return on Assets while the following working capital components were the independent variables; inventory turnover in days, average collection period and cash conversion cycle.

Return on Assets	Return on Assets is an indicator of how profitable a company is relative to its total assets. It is calculated as; Earnings before interest and taxes/ Total assets	**ROA**
Average Collection Period	This refers to the average time required for changing the company's receivables into cash. It is calculated as Debtors / sales X 360	**ACP**
Cash Conversion Cycle	The sum of days of sales outstanding (average collection period) and days of sales in inventory less days of payables outstanding (Keown et al ., 2003).	**CCC**

In this study, the multiple regression analysis was employed which was used to establish a relationship between the independent variables of working capital: cash conversion cycle, and average collection period and the dependent variable which is return on assets. Kothari (2004) cited that regression analysis is concerned with the study of how one or more variables affect changes in another variable.

Model Specification and Estimation

To test the hypotheses of the study, the following model was used to analyze the relationship between the variables:

ROA - F ($\beta 0 + \beta 0 + \beta_1 CCC + \beta_2 ACP$ ----- + ε)

Where;

ROA = Return on Assets

F = Function of the Model

$\beta 0$ - Intercept of the Model

β_1, $\beta_2\beta_3$ = Co-efficient of the Model

CCC - Cash Conversion Cycle

ACP = Average Collection Period

E = Error term of the mode

Presentation and Analysis

Descriptive Data Analysis

Return on Assets

Return on asset was the dependent variable of the research. It was the measure for financial performance and was the response variable for changes occurring in working capital management.

Cash Conversion Cycle:

This variable was the first independent variable used to measure working capital management. It was measured by subtracting average payment period from inventory turnover in days and average collection period.

Average Collection Period:

Average collection period was the second independent variable used to measure working capital management. This variable was measured by dividing accounts receivables and sales and multiplying it by 360.

Table 1. Data used for this study

VARIABLES	STATISTICS					
	2010	**2011**	**2012**	**2013**	**2014**	**2015**
ROA	1.622	2.8392	0.7665	0.8659	1.0033	0.8106
CCC	291	362	332	362	378	382
ACP	182	187	426	567	558	528

Source: Researcher's Computation

The descriptive statistics of the financial performance and each of the independent variables were calculated to provide a descriptive view into their nature. The values whose descriptive statistics are provided below are the aggregated values for all the firms for the period from 2010 to 2015. The mean, minimum, maximum and the standard deviation for each variable were calculated and the findings were tabulated table 2 below. The descriptive data

shows that ROA (Return on Assets) Mean is 1.3181 with Std. Deviation 0.80919; ACP (Average Collection Period) Mean is 408.000 with a Std. Deviation of 180.23429; CCC (Cash Conversion Cycle) Mean is 351.1667 with Std. Deviation of 34.33026.

The data values for all the study variables in respect to each of the sampled manufacturing companies were computed using the extracted data, from the annual financial statements of these manufacturing companies listed on the Nigerian Stock Exchange.

Table 2. Descriptive Statistics of Dependent and Independent Variable.

VARIABLES	Observations N	minimum	Maximum	Mean	Std. Deviation
ROA	6	.77	2.84	1.3181	.80919
ACP	6	182.00	567.00		180.23429
CCC	6	291.00	291.00		34.44026

Source: SPSS output file

a. a. Dependent variable; ROA

b. b. Independent variables: ACP and CCC

Table 3. Correlations Matrix for the variables

		ROA	ACP	CCC
Pearson Correlation	ROA	1.000	-.816	-.146
	ACP	-.816	1.000	.656
	CCC	-.146	.656	1.000
	ROA		.024	.392

Sig. (1-tailed)				
	ACP	.024		.078
	CCC	.392	.078	
N	ROA	6	6	6
	ACP	6	6	6
	CCC	6	6	6

(Correlation is significant at 0.05 level, 2 tailed test)

Source: SPSS output file

Table 3 shows the correlation results between performance (measured by ROA) and working capital management (measured by ITD, ACP and CCC). The result shows that there's a negative correlation between ROA (Return on Assets) and ACP (Average Collection Period) and CCC (Cash Conversion Cycle).

Table 4. Summary of regression results used for the study model

MODEL	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	**.990[a]**	**.980**	**.951**	**.17890**	**3.262**

Model Summary

a. Predictors: (Constant) ITD, ACP and CCC
b. Dependent Variable: ROA

Source: SPSS output file

Test of Hypotheses

The hypotheses formulated for this study are tested in this section using the t values induced by the SPSS output shown in table 5. The level of significance for the study is 5% (two tailed test). Therefore the, the critical value for / is 2.571. The decision rule for this test is to accept or reject the null hypothesis if the critical value is greater or less than the calculated t shown in the SPSS output of table 5. These hypotheses are tested therein as follows:

Table 5 Result of Regression Coefficients for the Study Model

Variables	Coefficients			T	Sig.	Correlations			Collinearity Statistics	
	Unstandardized Coefficients		Standardized Coefficients							
	B	Std. error	Beta		0.05	Zero order	Partial	Part	tolerance	VIF
Constant	-.959	1 .006		-.900	.463					
ACP	-.006	.001	-1.434	-9.458	.011	-.816	-.989	-.935	.425	2.350
CCC	.019	.003	.821	5.670	.030	-.146	.970	.561	,466	2.144

a. dependent variable: ROA
b. predictors: (Constant), ACP and CCC
Significant at 5%

Source: SPSS output file

$H0_1$: There is no significant relationship between cash management and financial performance of quoted manufacturing firms in Nigeria.
Table 5 provides for the testing of this null hypothesis (HOI) above, the result shows that the calculated value of t for CCC is 5.676. Therefore, the critical value (2.571) is lesser than the

calculated value oft for CCC as shown in table 5. Thus, the null hypothesis (HO_I) is rejected and it is concluded that the profitability of the manufacturing firms listed on the Nigerian exchange Stock during the study period was significantly influenced by the CCC. This position is also confirmed when the level of significance for this study (0.05) is compared with the calculated significant level for CCC (0.030) as shown in table 5.

Ho_2: There is no significant relationship between management of debtors and financial performance of quoted manufacturing firms in Nigeria.Table 5 again provides result for the testing of this null hypothesis (H02) above. The result shows that the calculated value oft for ACP is -9.458. Therefore, the critical value (2.571) is lesser than the calculated value oft for ACP as shown in table 5. Thus the null hypothesis (H02) is rejected and the conclusion is that the profitability of the manufacturing firms listed on the NSE during the study period was significantly influenced by the ACP. This position is also confirmed when the level of significance for this study (0.05) is compared with the calculated significant level for ACP (0.011) as shown in table 5.

DISCUSSIONS OF FINDINGS

This study was designed to establish the relationship between working capital and performance of manufacturing firms listed on the Nigerian stock exchange. Return on asset was the dependent variable while working capital components were the independent variable captured by average collection period (ACP) and cash conversion cycle (CCC). The regression results show that cash conversion cycle (CCC) has a positive and significant relationship with return on asset (ROA). This result indicates that as the manufacturing firms listed on Nigerian stock exchange lengthen their cash conversion cycle, its performance (profitability) as measured by return on assets will be increased significantly. These findings seem to agree with that of DeJoof (2003), he investigated the relationship between working capital management and firms profitability using cash conversion cycle (CCC) as a measure of working capital management. The study by Deloof in Belgian suggested that managers could create value for their stakeholders if they reduced the time periods of receivables and inventories to reasonably minimum levels.

The result from table 5 shows that average collection period (ACP) has negative significant relationship with return on assets (ROA). The result means that as manufacturing firms listed in Nigerian stock exchange take longer period to collect payments for goods supplied to its customers, its performance (profitability) level would be reduced significantly. The negative relationship between average collection period and profitability also suggest that a day decrease in the number of accounts receivable is associated with significant increase in profitability (performance) of manufacturing firms listed on the Nigerian stock exchange. The negative relationship for the study is consistent with that of Lazaridis and Tryfornidis (2006) who also found a negative relationship between the number of Days accounts receivables are outstanding (DAR) and profitability, although it also contradicts it in that their work showed an insignificant relationship between DAR and profitability.

CONCLUSION AND RECOMMENDATIONS

This research sought to establish the relationship between financial performance and working capital management in the manufacturing sector focusing on firms in the manufacturing industry. Return on assets was the dependent variable while working capital

components were the independent variable. Working capital components was further split into cash conversion cycle and average collection period. The research was done on firms in the manufacturing industry in Nigeria that are listed on the Nigerian stock exchange.

The firms provided the secondary data that was used for analysis. The data was from audited annual financial statements; the regression results show that the regression was statistically significant; the coefficient of cash conversion cycle was positive and statistically significant; the coefficient of inventory turnover in days was negative and statistically is not significant; and the coefficient of average collection period was negative and statistically significant.

The study shows that profitability of manufacturing firms depends upon effective working capital management. Since cash conversion cycle and average collection period has a negative relationship it further means that when the period firms receive payments from customers is shortened. Management would shorten the payment period in other to enhance performance. The study therefore concludes that there is a relationship between the various components of working capital indicating that effective working capital management has a great impact on profitability of manufacturing firms in Nigeria.

In view of the above findings, we recommend that managers should focus on reducing cash conversion cycles and try to collect receivables as soon as possible because it is better to receive inflows sooner than later thereby increasing the firms' profitability.

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