Effect of Working Capital Management on Profitability: A Case of Listed Manufacturing Firms in Nigeria

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Abstract: **- The purpose of this study was to determine the impact of working capital management on profitability of selected quoted Nigeria manufacturing companies from 2006-2015. Secondary data was obtained to investigate relationship between working capital management and profitability. Panel data methodology similar to Sharma and Kumar (2011) was employed in this study. The results showed positive significant relationship between working capital management and profitability. This means that efficient management of working capital will increase profitability.**

Key words: **Working capital management; Profitability; Cash conversion; Average collection period and Inventory conversion period**

I. INTRODUCTION

Working capital is defined as excess of current assets over current liabilities (Guthman & Dougalt). Working capital is very significant to an organization because its efficient utilization will result in increase in shareholders wealth. Working capital refers to the items that are required for day-to-day production of goods to be sold by a company.

The working capital meets the short-term financial requirements of a business enterprise. It is the investment required to run the business on day-to-day basis. It is the result of the time lag between the expenditure for the purchase of raw materials and the collection for the sales of the finished products. The components of working capitals are inventories, accounts to be paid to suppliers, and payments to be received from customers after sales. Financing is needed for receivable and inventories net of payable. The proportion of these components in the working capital change from time to time during the trade cycle. The working capital requirement decide the liquidity and profitability of a firm and hence affect the financing and investing decisions. Lesser requirement of working capital leads to less need for financing and less cost of capital and hence availability of more cash for shareholders. However, the lesser working capital may lead to lost of sales and thus may affect the profitability (Vedavinayagam, 2007).

The main objective of working capital management is to reach optimal balance between working capital management components (Gill, 2011). The efficient management of working capital is a fundamental part of the overall corporate strategy to create shareholders' value (Afza and Nazir, 2009). Therefore, firms try to keep an optimal level of working capital that maximizes their value (Deloof, 2003). From various studies, results have shown that working capital is the life wire of any business enterprise and the result arising from its management do not only affect profitability but also serve as decisive factor to the continue existence of the business (Raheman and Nasr 2007 and Samiloglu and Damirgunes, 2008).

The management of working capital and the role it plays in advancing financial performance continues to steer debate among scholars. There are many approaches in examining performance. Berger and Bonacconsi (2006) had used profitability as the performance measure for organizations. Profitability is a relative measure of the financial efficiency of the business (Gatsi, Gadzo and Akoto, 2013). It has been amply stated that the corporate of objective of any organization should be profitability. any business organization is an economic institution whose long term profit. An organization who pursues profitability as a corporate objective should have no fear in discharging the social and legal responsibility to its employees, creditor, government and the society at large. Firms have an optimal level of working capital that maximizes their values (Deloof, 2003). Profitability is generally depending on working capital management, thus working capital indicators such as inventory conversion period (ICP), debtors conversion period (DCP), cash conversion period (CCP) should have relationship with profitability indicators. There are two components of firm performance: one of them is profitability and the other is firm value. This paper seeks to examine working capital management and its impact on profitability of Nigerian manufacturing firms.

II. LITERATURE REVIEW

It has been widely accepted that profitability of a business concern likely depends upon the manner in which working capital is managed. The inefficient management of working capital not only reduces profitability but ultimately, it may lead to financial crisis of a firm.

This section of the paper will discuss concept, theories and previous works carried out by other researchers on working capital management.

2.1 Concept

1. *The Cash Conversion Cycle (CCC)*

This concept was introduced by Gitman (1974) and is a crucial element in working capital management. The total cash cycle is defined as the number of days from the time the firm pays for its purchases of the most basic form of inventory to the time the firm collects for the sale of its finished product. Richards and Laughlin (1980) operationalized the cash cycle concept by reflecting the net time internal between cash expenditures on purchases and the ultimate recovery of cash receipts from product sales. It is computed as follows: the average collection period of accounts receivable is added to the average age of the inventory; the sum of the two statistics represents the firm's operating cycle, from which the average payment period is subtracted. In this way, the working capital cycle is quantified to portray the residual time interval for which non-spontaneous financing needs to be negotiated to compensate for the unsynchronized nature of the firm's working capital investment flows. The CCC is an additive measure of the number of days funds are committed to inventories and receivables less the number of days payments are deferred to suppliers. The CCC was modified by Gentry, Vaidyanathan and Lee (1990) and they called it the weighted CCC (WCCC) and it scales the timing by the amount of funds in each step of the cycle. The weights are calculated by dividing the amount of cash tied up in each component by the final value of the component. This implies that the WCCC includes both the number of days and the amount of funds that is tied up at each stage of the cash cycle.

2. *The Net Trade Cycle (NTC)*

This is similar to the CCC and it measures liquidity on a flow basis. Where the measure differs from the CCC, instead of computing number of days of cost of goods sold in inventory and number of days purchases in accounts payable the net trade cycle calculates days of sales in both (Kamath, 1998).

3. *The Comprehensive Liquidity Index (CLI)*

The measure was developed by Melnyk and Berati (Scherr, 1989). It is a liquidity-weighted version of the current ratio, where current asset and liability are weighted based on their nearness to cash. The weighting is done by multiplying the monetary value of each current asset or liability by one minus the inverse of the asset or liability's turnover ratio. Where more than two turnovers are required to generate cash from the asset, the inverse of each of these ratios is deducted, and the results added for all current assets and liabilities. The added totals depict liquidity-adjusted measure of total current assets and liabilities. In this way, the current ratio can be computed based on the adjusted value for current asset and liabilities.

4. The Net Liquid Balance (NLB), applied by Shulman and Dambolena (1986), differentiates operational assets from liquid assets in an attempt to measure the true liquid balance of financial assets after operational needs have been met. It can be defined as cash plus marketable securities less all liquid financial obligation including notes payable and the current portion of long-term debt (Kamath, 1989). A positive net liquid balance would indicate a dependence on short-term external funding. The net liquid balance divided by total assets could be regard as a relative measure of liquidity.

5. *Baumol Theory*

Baumol using the economic order quantity formular developed a simple model for determining an optimal amount of transaction cash to maintain. The model objective is to balance the holding cost of carrying cash against the fixed cost of buying and selling marketable securities for cash. The model assumes that the firm has a steady demand for cash over some period of time. In this model, baumol wants to minimize the fixed cost associated with transactions and the opportunity cost of holding cash balances. These costs are expressed as:

$F(T/C) + i(C/2)$

Where F = the fixed cost of a transaction

T = the total cash needed for the time period involved,

I = the interest rate on marketable securities, and

C = cash balance

The optimal level of cash balance is determined using the following formula:

$$C = \sqrt{2FT/i}$$

6. *The Concept of Profitability*

Kishore, (2004) noted that profitability of an enterprise refers to a situation in which operational efficiency in an organization adds value to it through the utilization of available resources. The best measure of a company is its profitability, for without it, it cannot grow, and if it does grow, then its stock would trend downwards. Increasing profits are the best indication that a company can pay dividends and that the share price would tend upward. Creditors will loan money at a cheaper rate to a profitable company than to an unprofitable one; consequently, profitable companies can use leverage to increase returns on assets employed by the firm. The common profitability measures compare profits with sales, assets, or equity: net profit margin, returns on assets, returns on equity.

2.2 Theoretical Framework

2.2.1 Resource-Based View Theory

Resource-based view theory states that, the firmsposses resources, a subject of which enables them to achieve

competitive, and a further subset which leads to superior long term performance. The theory believed that the resources a firm possesses will to a large extent affect the performance of the organization. Wade and Hulland (2004), states that, resources that are valuable and rare and whose benefits can be appropriated by the owning firm will provide it with a temporary competitive advantage. This advantage can only be sustained over longer time of periods but this depend on the extent to which the firm is able to protect against imitation, transfer or substitution of the resource. This theory has been criticized on the basis of the definition of what is a resource to a company. With all the criticism leveled against the theory, the theory is relevant to this study because working capital consists of stocks, debtors, cash which are resources of the organization. The extent to which an organization manages these resources will definitely affect the profitability and the liquidity of the organization. Therefore, this theory is relevant to this study.

2.2.2 Kenynes' Liquidity Preference Theory

The classical economists treated money as a medium of exchange. In their opinion, people hold money only for transaction purposes. The Cambridge theory of money, which represent the neoclassical view, did recognize the asset function of money, but did not go beyond. They did not recognize the asset function of money (Dwivedi, 2001).

Keynes extended Cambridge theory to include holding bonds and securities as an alternative to holding idle cash balance as an asset. In his theory of demand for money, Keynes emphasized the asset function of money vis-à-vis another form of asset-bonds.

Keynes built his theory of demand for money which is referred to as Keynes preference theory, Cambridge cash balance approach to the demand for money. This is an extension of the Cambridge theory of money. According to Keynes, money is demanded for three motive: transaction motive, precautionary and speculative motive.

2.2.3 Theories of Profit

Since profitability is the ability to make profit, a look at the theories of profit will bring about proper understanding of profit and ability to make it.

Various theories of profit have been advanced from time to time regarding the nature of profit in a competitive economy. Basically, all of them say some reasonable things about what profit is but none of them is able to play claim to say about what profit is all about in a free economy. Four of these theories shall be considered because of their relevance to this work. They are:

- Hawley's risk bearing theory of point
- Uncertainty theory of point
- Rent theory of profit
- Dynamic theory of profit

Hawley's Risk Bearing Theory of Profit

This theory was propounded by Hawley Fredrick B. in 1893 in his article titled, The Risk Theory of Profit. According to him, profit is the reward of risk taking in a business. During the conduct of any business activity, all other factors of production i.e land, labour, and capital have their guaranteed income from the entrepreneur. They are least concerned whether the entrepreneur makes profit or undergo losses. There are many things that affect profit or losses that an organizations make as we know, the demand for goods and services produced can be affected by changes in taste, fashion or condition of trade, price of substitute, distribution of wealth etc. The project embarked upon may prove to be complete failure. In the case of business failure where the entrepreneur is not able to cover his total costs from sales of the commodities, it is he who ultimately bears the loss. He must be compensated for undertaking such risks. Profit therefore, is a payment or a reward for the assumption of risk by the entrepreneur. The greater the risk, the higher must be the profit.

This theory has suffered several setbacks on the following ground. Hawley states that, profit is a reward for bearing risk in business. The modern economists believe that, there is no doubt that profits contains some renumeration for risk taking in a business but it is wrong to assume that profits are in their entirety due to the element of risk.

Uncertainty Theory of Profit

Uncertainty theory of profit is the handy work of Professor Frank H. Knight, this was published in his work titled "Risk Uncertainty and Profit". In his theory profit is the reward for uncertainty bearing and not on risk taking in business. He divided the risk involve in business to insurable and non-insurable. He states that entrepreneur should not be entitled to profit for bearing insurable risks. He says it is only risks that are unpredictable and unforeseen and uninsurable should entitle the entrepreneur to profit. The risks which are unforeseen and cannot be statistically measured are what Knight refers to as uncertainty bearing risks. Profits, according to him are the reward of uncertainty bearing rather than risk taking which is insurable.

The theory has been criticized on the ground that, the total profits which an entrepreneur receives cannot be attributed solely to the element of uncertainty in a business because of other function that he perform in the organization.

Rent Theory of Profit

The rent theory of profit is the work of an American Economist, Francis A. Walker. He made a distinction between a capitalist and an employer. He stated that an employer does not need to be a capitalist. Francis says, just as rent arises because of the different advantage enjoyed by a superior land over the marginal/land, profit also the different ability of the entrepreneur over the marginal entrepreneur or the no-profit

entrepreneur. Profit to him is like rent and theory do not enter into price. He says the wages of management is not profit.

Gazu (2012) commenting on this theory states that this theory has the weaknesses as Ricardo's theory of rent. The employer who will leave the business with a slight unfavourable turn of events, will not necessarily be the least efficient. He may higher up in the scale and may be attracted by less profitable alternative employments. He further states that the theory does not explain the real nature of profits, that is merely provides a measure of profit. Economic concept (2012) explains on the theory by saying, profit do not arise simply because of the superior or ability of the entrepreneur but they result due to chance gains or monopolistic position. It is also stated that in the short run profit may not form part of cost of production but in the long run if the business is to continue, it must enter into the price of the product.

2.3 Empirical Review

Many researchers have investigated relationship between working capital management and profitability. While many have expressed positive relationship between working capital and profitability other expressed negative relationship.

Gill, Biger and Mathur (2010) used a sample of 88 American firms listed on the New York Stock Exchange for a period of three (3) years from 2005 to 2007. They found statistically positive and significant relationship between cash conversion cycle and profitability, measured through gross operating profit.

Angahar and Agbo (2014) studied the impact of working capital on the profitability of quoted Nigerian cement industry from 2002 to 2009. Their finding established positive relationship between working capital and profitability.

Ali and Ali (2012) carried out a study on fifteen (15) companies of three (3) different sectors of Pakistan. Result of the study revealed that efficient management of working capital can lead a firm towards profitability. They therefore urged that firms should improve their receivables and other current assets components for sufficient working capital.

Deloof (2003) have found a strong significant relationship between the measures of working capital management and corporate profitability. Their findings suggest that managers can increase profitability by reducing the number of day's accounts receivable and inventories. This is particularly important for small growing firms who need to finance increasing amounts of debtors.

Afza and Nazir (2009) investigated the relationship between aggressive and conservative working capital policies for a large sample of 205 firms in 17 sectors listed on Karachi Stock Exchange during 1998-2005. They found a negative relationship between the profitability measures of firms and degree of aggressiveness of working capital investment and financing policies. Shin and Soenen (1998) studied the relationship between working capital management and profitability of firms. Shin and Soenen used Net Trade Cycle (NTC) instead of cash conversion cycle to measure working capital management. The difference is components of cash conversion cycle (CCC) are expressed as a percentage of sales in net trade cycle. They found a strong negative relationship between net trade cycle and corporate profitability for a large sample of listed American firms for the periods between 1975 and 1994.

Yinka –Ojewole (2009) in her study of selected quoted enterprises in Nigeria established the relationship that exist between working capital management and the profitability of Nigeria quoted companies. Sample of ten (10) firms listed on the Nigerian Stock Exchange were used for the study. Pearson's correlation and regression analysis were used for the study. It was established that negative relationship existed between variables of working capital management and profitability of the firm i.e as the cash conversion cycle increases, it will lead to decreasing profitability of the firm.

III. METHODOLOGY

Ex-post facto time series design was adopted. The data used in this study was obtained from financial statements of manufacturing companies listed on the Nigerian Stock Exchange (NSE) from 2006 to 2015. Panel data methodology similar to Sharma and Kumar (2011) was used to investigate relationship between working capital management and profitability among manufacturing firms listed on the Nigerian Stock Exchange (NSE). Panel data regression analysis of cross-sectorial and time series data were employed for this study.

The general model for this study is represented by:

$\gamma_{it} = \alpha+\beta_1 D_{it}+\beta_2 Z_{it}+\Sigma$

Where γ is the dependent variable i.e Net Operating Profit ($NoP33_{it}$) of firm vat time t = i = number of firms while t stand for number of years which is 1-10 years

α = is the intercept of the equation

D_{it} = is the explanatory variable

Z_{it} = is the controllable variable i.e factors other than the explanatory variable that are likely to influence the firm's performance

β_1 and β_2 are the coefficient of the explanatory and controllable variable respectively

Σ is the error term, it has zero mean construct variance and non auto-correlated

An empirical framework already used by Deloof (2003),Padachi (2006) and Akinlo (2011) shall be used for this work.

IV. DATA ANALYSIS AND FINDING

The analytical and empirical analyses of the effect of working capital management on manufacturing companies'

profitability in Nigeria between 2006 to 2015 are discussed in this section of the study. Regression model was used to establish relationship between working capital management and profitability of thirty (30) sampled manufacturing firms quoted on the Nigerian Stock Exchange (NSE). The results and interpretation of the regression model on the relationship among manufacturing firms profitability and working capital management in Nigeria are presented in this section of the study. On the basis of the Hausman test result, the fixed effect method was adopted and the results are shown in the table below:

Table 1: Fixed Effects Regression Model for Profitability and Working Capital Management nexus in Nigeria (Baseline Model)

	NOP [1]		
	Coeff	**t-Stat.**	**Prob.**
C	0.2353	31.817*	0000
ACP	0.0002	1.908	0.0574
APP	-0.00003	-2.762*	0.0052
ITID	-0.004	-7.933*	0.0000
Adj.R^2	0.754		
S.E of Reg	0.1499		
F-Statistic	29.488*		
Prob. (F-Stat)	0.000		
Hausman Test	1.5226		
Obs	298		
Cross-Section	30		

[1] * denotes significant at 5%; [2]. All regression use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected)

Source: Author's Computation (2013)

NOP =0.2353 + 0.0002ACP – 0.00003 APP – 0.0004 ITID

Interpretation of Findings on Baseline Regression Model for Profitability and Working Capital Management

The result of the baseline model indicated that account collection period (ACP exerts positive and statistical significant effect on net operating profitability of the surveyed manufacturing firms during the review periods. These are found to conform with the a prior expectations in terms of signs. But APP exerts a negative and statistical effect on net operating profitability. This is in tandem with our a prior expectation. Also, inventory policy proxied by inventory turnover in days (ITID) has negative and significant effect on manufacturing firms' net operating profitability (NOP) in Nigeria between 2001 and 2010. The effect of inventory policy on firms' profitability is found not in tandem with the theoretical expectation based on signs.

In terms of magnitude, a percentage increase in working capital management in term of collection (ACP) the pooled manufacturing firms net operating profit (NOP) increased by 0.02%. And if payment policy (APP) is reduced by a percentage the pooled manufacturing firms net operating profitability increased by 0.003% respectively, while inventory policy (ITID) deteriorates firms' net operating income (NOP) by 0.04% during the reviewed period. Likewise, the adjusted R-Squared result indicated that 75.4% changes in firms' net operating profitability (NOP) is explained by variation in working capital management proxies such as account collection period (ACP), account payment period (APP), and inventory turnover in days (ITID) in Nigeria for surveyed manufacturing companies between 2001 and 2010. Since the working capital management variables consider in the study exhibited strong strength in explaining variation in Net Operating Profitability, the model is considered a good fit.

Also, the F-statistic value (29,488) is found significant at 5% critical level as indicated by its probability of 0.00 and this indicates that account collection period (ACP), account payment period (APP), and inventory turnover in days (ITID) as working capital management indicators have simultaneous and significant effect on manufacturing firms profitability in Nigeria at 5% critical level. On this bases, the non hypothesis "there is no significant relationship between management of working capital and profitability of Nigerian quoted manufacturing company over the period (2006-2015)" is rejected at 5% significant level.

Table 2: Fixed Effect Model for Accounting Collection Period and Profitability

	NOP	
	Coeff	**t-Stat.**
C	0.2068	25.687*
ACP	-0.0002	-1.506
Adj.R^2	0.736	
S.E of Reg	0.1559	
F-Statistics	28.611*	
Prob. (F-Stat)	0.000	
Hausman Test	2.129	
Obs	298	
Cross-Section	30	

[1]* denotes significant at 5%; [2]. All regression use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected)

Source: Author's Computation

NOP =0.2068 - 0.002ACP

Discussion of Finding on Profitability and Accounting Collection Period from Fixed Effect Regression Models

Account collection period (ACP) has negative effect on the Net Operating Profitability of quoted manufacturing companies in Nigeria in the period of study. This result is in tandem with the previous works of (Sayaduzzami, 2006;

Raheman and Nasir, 2007; Egbide, 2009; Falope and Ajilore, 2009; Charitou, 2010 and Bill, Giger and Mathur, 2010). The findings indicate that slow collection of accounts receivables is correlated with low profitability. From this, profitability can be improved by reducing the credit period granted to customers. By reducing the credit period, the cash conversion cycle would have been reduced. But in the works of Akinlo, 2011 and Uremadu et al 2012, the findings were contrary to the result of this work in that, they reported a positive relationship between Net Operating Profit (NOP) and Account Collection Period (ACP). The difference in the results reported by them may be as a result of the companies used in their analysis.

Table 3: Fixed Effect Regression Model for Accounting Payment Period and Profitability

	NOP	
	Coeff	**t-Stat.**
C	0.2007	65.804*
APP	-0.0005	-3.113*
Adj.R^2	0.736	
S.E of Reg	0.1570	
F-Statistics	28.624*	
Prob. (F-Stat)	0.000	
Hausman Test	0.0063	
Obs	298	
Cross-Section	30	

[1]* denotes significant at 5%; [2]. All regression use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected)

Source: Author's Computation

NOP =0.2007 - 0.0005APP

Discussion of Finding on Profitability and Accounting Payment Period from Fixed Effect Regression Models

Account payment period (APP) from this study has negative effect on manufacturing firms' profitability and was found statistically significant at 1%. This result is in agreement with former studies carried out by (Sayaduzzama, 2006; Lazardis and Tryfonidis, 2007; Raheman and Nasir, 2007; Garcia-Teruel and Martinez, 2007; Egbide, 2009; Falope and Ajilore, 2009; Charitou, 2010). The implication is that increase in the accounting payment period will lead to decrease in profitability. This result therefore negates the clamour for increase in account payment period. This is contrary to the findings of (Bill et al, 2010; Mathuwa, 2010; Huynh and Jyh-tay, 2010) which reported a positive relationship between profitability and account payment period. Their result may be so because of the environment where the studies were carried out. For example, Bill et al, 2010 study was carried out in the United States of America where commerce is predominantly on credit. It means, if you want to increase your sales, you must be ready to give more credit to your customers which will eventually translate to more profit all things being equal. In this case, increase in account payment period will lead to increase in profitability.

Table 4: Fixed Effect Model for Inventory Turnover in Days and Profitability

	NOP	
	Coeff	**t-Stat.**
C	0.2334	31.737*
ITID	-0.0004	-5.530*
Adj.R^2	0.709	
S.E of Reg	0.1464	
F-Statistics	20.550*	
Prob. (F-Stat)	0.000	
Hausman Test	0.0266	
Obs	298	
Cross-Section	30	

[1]* denotes significant at 5%; [2]. All regression use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected)

Source: Author's Computation

NOP =0.2334 - 0.0004ITID

Discussion of Findings on Profitability and Inventory Turnover in Days from Fixed Effect Regression Model

Inventory Turnover in Days (ITID) was found to have negative effect on manufacturing firms' profitability and was also found to be statically significant at 1%. It means that if the manufacturing companies in Nigeria want to increase their profitability, they must reduce their inventory turnover in days. From the descriptive analysis carried out, the mean of inventory turnover in days was 105.88 days and the median was 70.46 days. It means that any manufacturing company whose inventory turnover in days is more than the average calculated here should work hard to reduce its inventory turnover period to improve its profitability, though this should depend on the sector. The sector of a manufacturing organization will surely affect the time it takes to turnover its inventory. This result is in tandem with some works that had been done in the past, like the works of (Sayaduzzama, 2006; Raheman and Nasir, 2007; Falope and Ajilore, 2009; Yinka-Ojewole, 2009; Charitou, 2010; Raheman et al, 2010). However, the result of this study is not in agreement with results of the works of (Bill et al, 2010; Mathuwa, 2010; Akinlo, 2011; and Uremadu et al., 2012). This may be as a result of the data used in the analysis or some other reasons.

Table 5: Fixed Effect Regression Model for Cash Conversion Cycle and Profitability

	NOP	
	Coeff	**t-Stat.**
C	0.1941	74.1338*
CCC	0.0003	2.232*
Adj.R^2	0.734	
S.E of Reg	0.1577	
F-Statistics	28.270*	
Prob. (F-Stat)	0.000	
Hausman Test	0.0853	
Obs	298	
Cross-Section	30	

[1]* denotes significant at 5%; [2]. All regression use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected)

Source: Author's Computation

NOP =0.1941 + 0.00003CCC

Discussion of Findings on Profitability and Cash Conversion Cycle from Fixed Effect Regression Models

The panel regression estimation used in this study showed that cash conversion cycle exerted positive and significant effect on manufacturing firms' profitability in the period of study. It implies therefore that an increase in cash conversion cycle will lead to an increase in the profitability of manufacturing firms in Nigeria. This is in line with the works of (Gill et al., 2010; Amarjit et al., 2010; and Akinlo, 2011) who found that a positive relationship exists between cash conversion cycle and profitability. But this result is not in agreement with the works of (Shin and Soenan, 1998; Egbide, 2009; Falope and Ajilore, 2009; Raheman et al., 2010; Mathuwa, 2010; Uremadu, et al., 2012) who found that cash conversion cycle has a negative relationship with profitability.

V. CONCLUSION

In this paper, five models were developed to establish relationship between working capital management and profitability for thirty (30) selected manufacturing firms quoted on the Nigeria Stock Exchange from 2006 to 2015. On the basis findings of the research, it can be concluded that there are significant positive relationship between working capital management and profitability of manufacturing companies quoted on the Nigeria Stock Exchange (NSE). It is therefore recommended that management of Nigeria manufacturing companies should optimize the use of working capital in order to increase profitability and thereby increase the wealth of the shareholders.

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APPENDIX

List of Nigerian firms used in the study

S/N	Name of Firm	Sector
1	Universal Press Plc	Printing and Publication
2	Longman Nigeria Plc	Printing and Publication
3	Academy Press Plc	Printing and Publication
4	Seven-Up Bottling Company Plc	Food and Beverages
5	Nigerian Breweries Plc	Food/Beverages Tobacco
6	PZ Industries Plc	Conglomerates
7	Guinness Nigeria Plc	Food/Beverages Tobacco
8	Avon Crown capsPlc	Packaging
9	First Aluminum Plc	Industrial/Domestic Products
10	CAP Plc	Chemical and Paints
11	United Nigeria Textile Plc	Textiles
12	VitafoamPlc	Industrial/Domestic Product
13	Glaxo Smith Kline Plc	Healthcare
14	Okomu Oil Palm Plc	Agriculture
15	NCR Plc	Computer/Office Equipments
16	Thomas Wyatt Nigeria Plc	Computer/Office Equipments
17	AfprintsPlc	Textiles
18	Morison Industries Plc	Healthcare
19	Berger Paints Plc	Chemical/Paints
20	Lafarge WapcoPlc	Building Materials
21	Poly Products Plc	Packaging
22	Cement Company of Northern Nigeria Plc	Building Materials
23	Evans Medical Plc	Healthcare
24	Unilever Plc	Conglomerates
25	Cadbury Nigeria Plc	Food/Beverage and Tobacco
26	Flour Mills Plc	Food/Beverages and Tobacco
27	National Salt Company of Nigeria Plc	Food/Beverages and Tobacco
28	UAC Plc	Conglomerates
29	UTC Plc	Conglomerates
30	Nestle Nigeria Plc	Food/Beverages and Tobacco

Source: Authors Compilation