

## **Working Capital and Organization Performance In Nigeria.**

BY

<sup>1</sup>Adeleke Omolade, And <sup>2</sup>Mukolu. M.O,

<sup>1,2</sup>College of Education, Ikere-Ekiti, Nigeria and Federal polytechnic, Ado-Ekiti Nigeria.

---

**ABSTRACT:** *The study empirically assessed the impact of working capital on organization performance using ten selected quoted companies across different industries in Nigeria. The inability of many organizations to effectively manage their working capital in such a way that it will lead to a sustainable performance has been identified as the bane of organizational growth in Nigeria. The study applied ordinary least square i.e multiple regression analysis as its estimating technique. A model that expressed return on capital employed which is a proxy for organization performance as function of working capital, turnover and equity was formulated. After the model estimation it was discovered that while six of the companies used showed a negative relationship between working capital and organization performance, four showed a positive relationship. It was also discovered that working capital of all the ten firms do not have significant impact on their performances during the period under review. Consequently, it is recommended that firms should reappraise the trends of their working capital vis a vis their performances with a view to choosing appropriate level of cash conversion flow that will not hamper their performances. Again, government should provide enabling environment for business organizations to thrive since literature have shown that business environment tend to have more impact on organization performance than working capital especially in a developing country like Nigeria.*

**KEY WORDS:** *Working capital, organization performance, business organization*

JEL Classifications: L25, M21, M10

---

### **I. INTRODUCTION**

An organization is required to maintain a balance between liquidity and organization's performance while conducting its day to day operations. Liquidity is a precondition to ensure that organizations are able to meet its short-term obligations and its continued flow can be guaranteed from a profitable venture. The importance of cash as an indicator of continuing financial health should not be surprising in view of its crucial role within the business. This requires that business must be run both efficiently and profitably. In the process, an asset-liability mismatch may occur which may increase organization's performance in the short run but at a risk of its insolvency. On the other hand, too much focus on liquidity will be at the expense of organization's performance and it is common to find finance textbooks (for e.g see Gitman, 1984 and Bhattacharya, 2001) begin their working capital sections with a discussion of the risk and return tradeoffs inherent in alternative working capital policies. Thus, the manager of a business entity is in a dilemma of achieving desired tradeoff between liquidity and organization's performance in order to maximize the value of an organization through an effective working capital management.

Business organizations are viewed as an essential element of a healthy and vibrant economy. They are seen as vital to the promotion of an enterprise culture and to the creation of jobs within the economy (Bolton Report, 1971). An aspect of business organization specifically Small Medium-Sized Enterprises (SMEs) are believed to provide an impetus to the economic progress of developing countries and its importance is gaining widespread recognition. Equally in many developing the SMEs occupy a central place in the economy, accounting for 90% of business stock (those employing up to 50 employees) and employing approximately 25% of private sector employees (Wignaraja and O'Neil, 1999; CSO, 2003; NPF, 2004). Storey (1994) notes that small organizations, however, they are defined, constitute the bulk of enterprises in all economies in the world. Again, the multinational companies also are very essential in creation of employment opportunities and promotion of overall economic growth of the economy. Therefore the performance of these businesses is very germane to the growth of the economy. However, given their reliance of many business organizations on short-term funds, it has long been recognized that the efficient management of working capital is crucial for the survival and growth of these organizations (Grablowsky, 1984; Pike and Pass, 1987). A large number of business failures have been attributed to inability of financial managers to plan and control properly the current assets and current liabilities of their respective organizations (Smith, 1973). Working capital management is of particular importance to the business organizations. Some business organizations have limited access to the long-term capital markets, these organizations tend to rely more heavily on owner financing, trade credit and short-term bank loans to finance their needed investment in cash, accounts receivable and inventory

(Chittenden et al, 1998; Sacurato, 1994). However, the failure rate among these types of businesses is very high compared to that of large businesses. Studies in the UK and the US have shown that weak financial management - particularly poor working capital management and inadequate long-term financing - is a primary cause of failure among businesses (Berryman, 1983; Dunn and Cheatham, 1993). The success factors or impediments that contribute to success or failure are categorized as internal and external factors. The factors categorized as external include financing (such as the availability of attractive financing), economic conditions, competition, government regulations, technology and environmental factors. While the internal factors are managerial skills, workforce, accounting systems and financial management practices. Some research studies have been undertaken on the working capital management practices of both large and small organizations in India, UK, US and Belgium using either a survey based approach (Burns and Walker, 1991; Peel and Wilson, 1996) to identify the push factors for organizations to adopt good working capital practices or econometric analysis to investigate the association between working capital management and organization's performance (Shin and Soenen, 1998; Anand, 2001; Deloof, 2003). Specific research studies exclusively on the impact of working capital management on corporate organization's performance of the small manufacturing companies are scanty, especially for the case of Nigeria. Keeping this in view and the wider recognition of the potential contribution of the business organization as a key player in the real sector of the economy of developing countries, the performance of these organizations is key to a country's economic growth and working capital management is very germane to accelerating their performance.

However, working capital management is considered to be a very important element to analyze the organizations' performance while conducting day to day operations, by which balance can be maintained between liquidity and profitability. Maintaining liquidity on daily base operation to make sure it's running and meets its commitment is a crucial part required in managing working capital. It is a difficult task for managers to make sure that the business function running in well-organized and advantageous manner. There are chances of inequality of current assets and current liability during this procedure Organization's growth and profitability will be affected if this occurs and organization manger wouldn't be able to manage it efficiently. According to Harris (2005) Working capital management is a simple and straightforward concept of ensuring the ability of the organization to fund the difference between the short term assets and short term liabilities. Nevertheless, complete mean and approach preferred to cover all its company's activities related to vendors, customer and product. (Hall, 2002). Now a day working capital management is considered as the main central issues in the organizations and financial managers are trying to identify the basic drivers and level of working capital management (Lamberson, 1995). The purpose of this study is to identify whether the performance of organizations are affected by working capital management in some selected companies quoted on Nigerian Stock Exchange (NSE). It has to establish the relationship between liquidity and organization's performance considering Return on Assets (R.O.A) and Return on Equity (R.O.E). This study is very important for the managers of many business organizations as it will help them to set tradeoff between their liquidity and their performance of organizations. Specific research studies exclusively on the impact of working capital management on corporate performance of the business organizations appears to be scanty, especially for the case of Nigeria. Consequently, our study is a modest attempt to measure and analyse the trend of working capital investment and needs of business organizations. This study, therefore, attempts to assess the impact of working capital on organization performance of a sample of business organizations and its results are expected to contribute to the existing literature on working capital and firms performance.

## **II. LITERATURE**

Prior studies reported that working capital management may have an important effect on the organization's profitability. Shin and Soenen (1998), Lazaridis and Tryfonidis (2006), Raheman and Nasr (2007), among others, measured working capital with cash conversion cycle, which consists of stockholding period, debtors' collection period and creditors' payment period. These researchers supported that greater investment in working capital (the longer cash conversion cycle) leads to reduction in the organization's profitability (Banos-Caballero et al, 2010, and Nazir and Afza, 2003, 2009). Deloof (2003) used a sample of Belgian organizations and found that organizations can increase their profitability by reducing the debtors collection period and the days-in-inventory period. He also found that less profitable organizations wait longer to pay their bills. Wang (2002) used a sample of Japanese and Taiwanese organizations and found that a shorter cash conversion cycle would lead to a better organization's operating performance. Teruel and Solano (2007) took samples of small to medium-sized Spanish organizations for the 1996-2002 period and found that the organizations can create value by reducing the days-in-inventory period and the debtors collection period, thus leading to the reduction in the cash conversion cycle. On the other hand, though, other researchers support that investing more in cash conversion cycle (conservative policy) may lead to increased profitability since maintaining high inventory levels is expected to increase sales, reduce supply costs, reduce cost of possible

interruption in production and protect against price fluctuations (Blinder and Maccini, 1991). A higher debtors' collection period may also strengthen the relationship with customers and hence may lead to an increase in sales revenue (Ng *et al*, 1999). Deloof (2003) showed that a relatively huge amount of organizations' assets are reserved for working capital. Summers and Wilson (2000) also stated that more than 80% of the daily business transactions in the UK corporate sector is on credit terms. As it can be seen from the aforementioned empirical evidence, there are inconclusive and inconsistent results with regard to the role of working capital management on organizations' financial performance. This is due to the fact that researchers used either the conversion cycle as it relates to the organization's profitability or they examined only part of the components of the conversion cycle. Dong (2010) reported that the organizations' profitability and liquidity are affected by working capital management in his analysis. Pooled data are selected for carrying out the research for the era of 2006-2008 for assessing the companies listed in stock market of Vietnam. He focused on the variables that include profitability, conversion cycle and its related elements and the relationship that exists between them. From his research it was found that the relationships among these variables are strongly negative. This denotes that decrease in the profitability occurs due to increase in cash conversion cycle. It is also found that if the number of days of account receivable and inventories are diminished then the profitability will increase numbers of days of accounts receivable and inventories. Mohammad Neab and Noriza BMS (2010) worked on creating the relationship between Working Capital Management (WCM) and performance of organizations. For their analysis they chose the Malaysian listed companies. They administered the perspective of market valuation and profitability. They used total of 172 listed companies from the databases of Bloomberg. They randomly selected five year data (2003-2007). This research likewise the researches quoted before studied the impact of the dimensions of working capital component i.e. C.C.C., current ratio (C.R.), current asset to total asset ratio (C.A.T.A.R), current liabilities to total asset ratio (C.L.T.A.R.), and debt to asset ratio (D.T.A.R.) in effect to the organization's performance whereby organization's value dimension was taken as Tobin Q (T.Q.) and profitability i.e. return on asset (R.O.A.) and return on invested capital (R.O.I.C). They applied two different techniques for analyzing the data that are multiple regression and correlations. They found that there is a negative relationship between working capital variables and the organization's performance.

Saswata Chatterjee (2010) focused on the importance of the fixed and current assets in the successful running of any organization. It poses direct impacts on the profitability liquidity. There have been a phenomenon observed in the business that most of the companies increase the margin for the profits and losses because this act shrinks the size of working capital relative to sales. But if the companies want to increase or improve its liquidity, then it has to increase its working capital. In the response of this policy the organization has to lower down its sales and hence the profitability will be affected due to this action. For this purpose 30 United Kingdom based companies were selected which were listed in the London Stock exchange. The data were taken of three years 2006-2008. It analyzed the impact of the working capital on the profitability. The dimensions of working capital management included in this research which is quick ratios, current ratios C.C.C, average days of payment, Inventory turnover, and A.C.P (average collection period). on the net operating profitability of the UK companies. Mathuva (2009) studied the impact of working capital management on the performance. He took almost 30 listed organizations as a sample and all these companies were listed in Nairobi stock exchange and the data was taken from 1993 to 2008. There were certain findings of his research by analyzing the fixed effects regression models. Firstly, there is a negative relationship between the time when the cash is collected from the customers and the organization's productivity. This depicts, organizations that are more profitable enjoys less time period for the collection of cash from the customers as compare to ones which are less profitable. Secondly, there is a positive relationship between the inventories when they were brought in and the period to which they are sold and the organization's profitability. The interpretation comes out as that the organizations or the organizations which take more time to keep the inventories it reduces the costs of the disruption in the process of production and usually the business losses as there is the insufficiency in the goods. This situation decreases the operating cost of the organization. The third assumption of the research was the association between the average payment period and profitability and found out to be positive ( $p < 0.01$ ). The more the time taken to disburse the creditors, the profitability will increase

Sen. M (2009) examined the ISE (Istanbul Stock Exchange) listed organizations and checked out the relationship with the working capital. According to them there is negative relationship among variables. His research uncovered the importance of the finance directors who act as moderators or catalysts to increase the productivity of the organization in other words they positively affect the organization's performance Teruel and Martinez-Solano (2007) also provided the empirical relationship between both the variables. They chose the small and medium sized Spanish organizations, a sample of about 8872 small to medium sized enterprises for 1996 to 2002. After the in depth view it was found out that the negative relationship between the profitability of SME's and the number of days account receivable and days of Inventory. But it did not provide the

exact impact of no. of days account payable affect and SME's return on Assets. Ganesan (2007) selected telecommunication equipment industry to study the effectiveness of working capital management. The sample included for his research paper included 443 annual financial statements of 349 telecommunication equipment companies covering the period 2001 to 2007. The statistical tests used included correlation, regression analyses and Analysis of variance (ANOVA). The results showed that days of the working capital negatively affects the profitability of these organizations but in reality it does not affect the transportability of organizations in telecommunication equipment industry. Sayaduzzaman MD. (2006), examined that the management of British American Tobacco is highly reasonable due to the constructive cash inflows, designed approach in running the major components of working capital by evaluating five years data from 1999-2000 to 2002-2003. Appliance of multi-dimensional modal of existing assets mix may have optimistic impact on the nonstop expansion & extension of this multinational enterprise. This also depends on collaboration of the stakeholders and business environment in the framework of globalization.

Filbeck G. et al. (2005) investigated the data of 26 industries by taking the data of 970 companies during 1996 to 1999. They found out that organizations are able to decrease financing cost and/or augment the funds obtainable for development by reduce the amount of funds attached to the current assets. They revealed that significant difference exist between industries in working capital measures across time. In addition, we determine that these measures for working capital vary extensively with in industry with the passage of time. It is concluded that negative relationship was also found out between profitability and liquidity of companies of United Kingdom. Conversely a positive relationship was seen between debt and organization's profitability. The researchers propose that profitability can be increase by managers if reduction in the day's of accounts receivable and inventories occurred. Therefore the companies whose profitability is less opt to take much longer time to pay their bills. The aim of this heading is to discuss the work being done by the researchers and scholars in different industries and organizations so as to reveal the contents or the variables and in their dimensions in depth.

Melita (2010) examined the effect of working capital management on firm's profitability in an emerging market financial performance in an emerging market. We hypothesize that working capital management leads to improved profitability. The data set used consisted of firms listed in the Cyprus Stock Exchange for the period 1998-2007. Using multivariate regression analysis, results supported his hypothesis. Specifically, results indicated that the cash conversion cycle and all its major components; namely, days in inventory, days sales outstanding and creditors payment period – are associated with the firm's profitability. According to Melita (2010) the results of this study should be of great importance to managers and major stakeholders, such as investors, creditors, and financial analysts, especially after the recent global financial crisis and the latest collapses of giant organizations worldwide. Kesseven (2006) examined the trends in working capital management and its impact on firms' performance in Mauritian Small Manufacturing Firms. According to him, the trend in working capital needs and profitability of firms were examined to identify the causes for any significant differences between the industries. The dependent variable, return on total assets was used as a measure of profitability and the relation between working capital management and corporate profitability was investigated for a sample of 58 small manufacturing firms, using panel data analysis for the period 1998 – 2003. The regression results show that high investment in inventories and receivables was associated with lower profitability. The key variables used in the analysis were inventories days, accounts receivables days, accounts payable days and cash conversion cycle. A strong significant relationship between working capital management and profitability had been found in previous empirical work. An analysis of the liquidity, profitability and operational efficiency of the five industries showed significant changes and how best practices in the paper industry have contributed to performance. The findings also revealed an increasing trend in the short-term component of working capital financing.

Muammahd and syed (2011) investigated the impact of working Capital Management on firms' performance for non-financial institutions listed in Karachi Stock Exchange (KSE- 30) Index. A panel data has been used in this study for 21 Kse-30 Index listed firms over a period for the year 2001 to 2010. The results were obtained by using Canonical Correlation Analysis for identifying the relationship between working capital management and firms' performance. The findings showed that working capital management has significant impact on firms' performance and it was concluded that managers can increase value of share holder and return on asset by reducing their inventory size, cash conversion cycle and net trading cycle. Increase in liquidity and time period to supplier will also lead to firms' overall performances.

### III. METHODOLOGY

#### 3.1 Model Specification

The model used in this study is model is guided by the work of Melita (2010) In order to test our proposition, we regress the working capital on and the organizations' performance (Deloof, 2003, and Teruel & Solano, 2007). However according to Melita (2010) there some components of the cash conversion cycle which include equities and turnover. These two variables are used as our control variables i.e they also form part of our independent variables that we will regress on the organizations' performance, return on capital employed ( ROCE) is used to capture the organizations performance.. Consequently the model for our study is stated as follows:

$$ROCE = f (WC, TUR, EQ, ) \dots (1)$$

Explicitly the models can be written as

$$ROCE_{it} = \beta_0 + \beta_1 WC_{it} + \beta_2 TUR_{it} + \beta_3 EQ_{it} + \mu_i \dots 2$$

Where

ROCE<sub>it</sub> = Return on capital employed by firm i at period t

WC<sub>it</sub> = Working capital of firm i at period t

EQ<sub>it</sub> = Equities of firm i at period t

TUR<sub>it</sub> = Turnover of firm i at period t

u<sub>i</sub>=Error term

#### 3.2 Definition of variables

**Return on Capital Employed (ROCE):** This is our dependent variable as it represents a measure of the organizations performance. This ratio also relates profit to investment. It is computed by dividing the profit before investment and tax by the capital employed (Total long term Fund) which is the fund employed in the net asset plus total debt Anao and Osaze (1993). That is

$$ROCE = \frac{\text{Net Profit Before Interest and Taxes}}{\text{Total Long Term Fund}}$$

**working capital (WC):** This is our real variable of interest, it can be given in a formula form, which is obtained from the book of Brealey, Myers and Allen (2008), p. 789: Net working capital = current assets - current liabilities. Similarly to this statement, Filbeck and Krueger (2005) state that: Working capital is the difference between resources in cash or readily convertible into cash (Current Assets) and organizational commitments for which cash will soon be required (Current Liabilities).

**Turnover (TUR):** This is one of our control variables, it is represents the total sales of the organization, according to Melita (2010) it is regarded as one of the cash conversion cycles.

**Equities (EQ):** This is the other control variable used in this study, it is also regarded as noe of the cash conversion cycles. It is captured with the share capital of the organizations

#### 3.3 Apriori Expectations

Based on literature and theories certain forms of relationships are expected between the dependent variable return on capital employed ROCE which is proxy for the organizations' performance and other independent variables that is turnover, working capital, and equity. The expected relationships are explained as follows:

$$\frac{dROCE}{dWC} > 0 \quad \text{That is, } \beta_1 \text{ is expected to be positive}$$

This simply means that a direct relationship is expected between return on capital employed and working capital.

$$\frac{dROCE}{dTUR} > 0 \quad \text{That is, } \beta_2 \text{ is also expected to be positive}$$

This simply means that a direct relationship is expected between return on capital employed and turnover.

$$\frac{dROCE}{dEQ} > 0 \quad \text{That is, } \beta_3 \text{ is also expected to be positive}$$

This simply means that a direct relationship is expected between return on capital employed and equity.

### 3.4 Estimating Technique

The estimating technique adopted for this research work is the Ordinary Least Square Estimating technique, precisely the multiple regression version. A single model was employed in order to empirically investigate the impact of working capital on an organization's performance. The ordinary least square (O L S ) method of multiple regression is adopted because the OLS appears appropriate as it yields estimator which are best linear, un-biased and efficient. The following are the reasons for employing the OLS method.

- [1] The mechanisms of OLS are easy to understand
- [2] The OLS interpretation procedure is fairly simple.
- [3] The OLS has been used in a wide range of economic relationship with fairly satisfactory results and
- [4] The OLS is an essential component of most other econometric techniques.

### 3.5 Sources of Data

Basically data needed for the study a purely secondary and therefore secondary sources will be consulted. However, In the process of collecting data for this study, all the variables used shall be sourced from the Nigerian Stock Exchange NSE (2010) edition.

## VI. RESULTS AND DISCUSSION

The first two organizations used were selected from the Banking Industry. Namely First Bank and Guarantee Trust Bank . After the model estimation, the regression results were presented as follows:

### 4.1 Regression Results

#### First Bank

$$\text{ROCE} = -31.15 + 0.0014\text{TUR} - 0.0124\text{WC} + 0.0089\text{EQ} \\ (62.31081)^* (0.0092)^* (0.01184)^* (0.010292)^* \quad \text{..eqn1}$$

$$R^2 = 0.92 \quad F = 4.363[0.33] \quad \text{Dw} = 3.4$$

#### GT Bank

$$\text{ROCE} = 45.88 - 0.000152\text{TUR} - 0.00014\text{WC} + 0.0000357\text{EQ} \\ (60.52131)^* (4.56\text{E}-06)^* (3.64\text{E}-05)^* (3.62\text{E}-05)^* \quad \text{..eqn2}$$

$$R^2 = 0.50 \quad F = 0.337123 [0.816505] \quad \text{Dw} = 2.6$$

The second two organizations are selected from the Beer Brewing Industry

#### Guinness Nig. PLC

$$\text{ROCE} = 1.370076 + 2.88\text{E}-08\text{TUR} - 6.38\text{E}-08 \text{WC} - 1.12\text{E}-07\text{EQ} \\ (0.715229)^* (2.68\text{E}-08)^* (9.84\text{E}-08)^* (1.48\text{E}-07)^* \quad \text{..eqn3}$$

$$R^2 = 0.76 \quad F = 2.067232 [0.342478] \quad \text{Dw} = 3.0$$

#### Nig Brewries. PLC

$$\text{ROCE} = -0.043886 + 8.21\text{E}-09\text{TUR} + 1.63\text{E}-10 \text{WC} + 2.23\text{E}-09\text{EQ} \\ (0.842511)^* (0.842511)^* (9.76\text{E}-09)^* (4.72\text{E}-08)^* \quad \text{..eqn4}$$

$$R^2 = 0.88 \quad F = 5.092304 [0.168515] \quad \text{Dw} = 3.3$$

The third two organizations were selected from the Oil Industry

#### Texaco Nig . PLC

$$\text{ROCE} = -0.895560 + 1.26\text{E}-07\text{TUR} - 2.21\text{E}-06\text{WC} - 1.44\text{E}-05\text{EQ} \\ (9.367961)^* (1.85\text{E}-07)^* (7.34\text{E}-06)^* (0.000143)^* \quad \text{..eqn5}$$

$$R^2 = 0.50 \quad F = 0.678761 [0.641669] \quad \text{Dw} = 2.04$$

#### Mobil Nig . PLC

$$\text{ROCE} = -2.228344 - 1.69\text{E}-10\text{TUR} + 1.01\text{E}-07\text{WC} + 3.72\text{E}-05\text{EQ} \\ (9.580976)^* (3.04\text{E}-07)^* (3.60\text{E}-06)^* (0.000108)^* \quad \text{..eqn6}$$

$$R^2 = 0.28 \quad F = 0.262798 [0.849657] \quad \text{Dw} = 3.0$$

#### UAC Nig . PLC

$$\text{ROCE} = -0.029344 + 0.00083\text{TUR} - 0.000175\text{WC} - 0.000324\text{EQ} \\ (0.080976)^* (0.0407)^* (0.0609)^* (0.00118)^* \quad \text{..eqn7}$$

$$R^2 = 0.93 \quad F = 9.035 [0.09] \quad \text{Dw} = 2.6$$

#### UNILEVER Nig . PLC

$$\text{ROCE} = -0.258 + 0.00097\text{TUR} - 0.000384\text{WC} - 0.000151\text{EQ} \\ (0.227477)^* (1.04\text{E}-08)^* (9.36\text{E}-08)^* (2.07\text{E}-08)^* \quad \text{..eqn8}$$

$$R^2= 0.94 \quad F=11.156 [0.08] \quad Dw=2.5$$

**GLAXO Nig. PLC**

$$\text{ROCE} = -0.2874 + 0.0000276\text{TUR} + 0.000284\text{WC} + 0.000349\text{EQ} \\ (0.22017)^* (6.60\text{E}-08)^* (1.56\text{E}-07)^* (2.26\text{E}-07)^* \quad \text{..eqn9} \\ R^2= 0.92 \quad F=7.6 [0.11] \quad Dw=2.6$$

**M & B Nig. PLC**

$$\text{ROCE} = 0.125 + 0.0000643\text{TUR} + 0.000176\text{WC} + 0.000234\text{EQ} \\ (0.229263)^* (1.15\text{E}-07)^* (1.11\text{E}-06)^* (7.43\text{E}-07)^* \quad \text{..eqn10} \\ R^2= 0.30 \quad F=0.2946 [0.83] \quad Dw=3.39$$

The regression results were presented from equation 1 to equation 10. As it was shown from the presentation, two firms were chosen each from the industries. Considering the results and starting from the first model on equation 1 which represents that of the first bank. It showed that turnover and equity has direct or positive relationship with the return on capital employed which is the proxy for organization performance. But working capital which is our major variable of interest has a negative or inverse relationship with the ROCE. The second model which is for the GT bank also showed a similar result i.e. our real variable of interest which is the working capital showed a negative relationship with the ROCE. This result is in conformity with the findings of researchers like Deloof (2003), Wang (2002) who found a negative relationship between working capital components and organization performance. The second sets of firms were selected from the beer industry, namely Guinness and Nigeria Breweries While Guinness model showed a negative relationship between performance and working capital, Nigeria Breweries showed a positive or a direct relationship between its performance and its working capital. According to Patrick (2009) a firm that showed a positive relationship between its performance and working capital are said to be following what is called conservation policy. That is they try to maintain high inventory level and keep high cash conversion cycle.

The third set of firms was taken from the oil industry, and the two showed different results regarding working capital and organization performance relationship. Firstly, Mobil, showed a positive relationship between its working capital and its performance while Texaco showed a negative relationship. Hence, While Mobil is conservative, Texaco is non conservative. The fourth set was chosen from the conglomerates. The result of the two firms namely: UAC and UNILEVER have similar result regarding working capital and performance relationship. The two showed that there was a negative between working capital and performance. And lastly the last two set of firms from the pharmaceutical industry both showed that there is a positive relationship between their working capital and their performances. However, from the findings of this research work it showed that just like other authors reviewed in the literature of this research report some researchers found a positive relationship between working capital components and performance or profitability while some found a negative relationship. It was concluded from one of the researches that firms in the real world have divers ways of managing their cash inventory depending on the firms ideology, business environment, government policies among others.

#### 4.2 Test of Statistical Significance and Test of Overall Statistical Significance

The  $R^2$  of first bank has 0.92 while that of GT bank 0.33. This means that working capital, turnover and equity explained 92% and 33% variation in ROCE of first bank and GT bank respectively. A very important deduction from the two results is that the coefficients of working capital for the two firms were not statically significant. Also the F statistics values of the two firms did not pass test of statistical significance hence the two models were not statistically significant. It can be concluded that working capital does not have significant impact on the two organizations performance. Considering the second sets of firms selected from the beer brewing industry. While working capital showed a non significant negative relationship with ROCE in Guinness model, it showed a non significant positive relationship with ROCE in Nigeria breweries model. Again the individual coefficients of both turnover and equity were not also statistically significant the indication of this is that none of the three variables for both firms has a significant effect on the ROCE. Although the  $R^2$  of both showed that 75% and 88% variation in ROCE is explained by the combinations of turnover, working capital, and equity of Guinness Niger PLC and Niger breweries PLC respectively. The F test which is the test of the over all significance of the model showed that the two models were not statistically significant. Therefore, it can be concluded again from this findings that working capital did not have significant impact on the performances of the two organizations, selected from the beer brewing industry. The third sets of firms were selected from the oil marketing industry i.e. Mobil oil and Texaco oil their regression results were shown in equations 5 and 6 the result also demonstrated a similar form of relationship in that coefficients of on the three independent variables in the two models were not statistically significant. Even in Texaco model the working capital apart from the facts that it was not significant it was also negative.

The  $R^2$  of both firms were relatively low. From the value of the  $R^2$  it showed that 28% and 50% variation in ROCE is explained by the model i.e. combination of turnover, working capital and equity for both Mobil and Texaco oil respectively. The implication of this result is that the three play relatively small role in determining the performance of the two organizations. Again, the test of statistical significant for both forms showed that none of their coefficients was statistically significant during the period under preview. These findings were supported also by the test of overall significance of the two models, none of the F values was statistically significant meaning that working capital, turnover and equity did not have significant impact on the two firms performances.

To further demonstrate the impact of working capital of organizations performance in Nigeria two organizations here selected from the conglomerates namely. UAC and UNILEVER Nig PLC. There was a slight difference in the result obtained when it was compared with the previous ones. But just like the previous results the working capital coefficient is not significant and also negative. This is an implication that working capital as an individual variable in the model did not have significant impact on ROCE. Though, this is also the same with other variables in the model i.e. turnover and equity for the two conglomerates they are not statistically significant. However the major difference between this and other previous ones is that the  $R^2$  of both conglomerates were relatively high. That is 0.93 and 0.94 for UAC and UNILEVER respectively. This means that about 93% and 94% variation in ROCE is explained by the combinations of turnover, equity and working capital. Another difference is that the two models from the conglomerate passed test of overall significance at 10% level. This shows that the combination of turnover, working capital and equity have significant impact on their performances but working capital alone failed to have a significant impact on the two organizations performances. Lastly, the fourth sets of firms were selected from the pharmaceuticals they are glaxosmithcline and May and Baker. Again, the two demonstrated almost similar results. Firstly, the coefficients of the working capital were not statistically significant, similarly the coefficients of both turnover and equity were not statistically significant. while the  $R^2$  of glaxo was relatively high. i.e. 0.92 that of M and B was very lows 0.3. The test of overall significance also showed that the models were not statistically significant hence turnover, equity and working capital of the two organizations did not have significant impact on the performance of the two pharmaceutical firms, Our empirical results have shown that working capital is not playing any important role in organization performance in Nigeria

## V. CONCLUSION

Evidence from this research work has confirmed that there existed various types of relationship between working capital and organization performance. Some of the ten companies' models showed that there existed an inverse relationship between their cash conversion cycle (working capital) and performance, while some showed a direct relationship. Precisely, six of the firms namely: First Bank, GT Bank, Guinness, Texaco, UAC and UNILEVER all showed that there is an inverse relationship between working capital and performance While four remaining firms namely: Nigeria Breweries, Mobil, Glaxo and M & B showed that there is a positive relationship between their working capital and performance. Consequently, according to Patrick (2009) it can be concluded that the first six firms were not following the conservation policy since they believed that reduction in working capital would lead to improvement in their performances. While the other four firms can be said to be following the conservation policy which supports the view that increase in working capital would lead to increase in their performances. Again our empirical result have shown that the coefficients of working capital of all the firms' models did not pass the statistical test of significance at 5% level based on this, it can also be concluded that working capital of these firms did not have any significant impact on their performances. However, it was also deduced from our findings that a firm that did not follow the conservative policy in an industry appeared to have a more robust R square than the other firm that follow conservation policy in the same industry. Therefore it can also be concluded that the less conservative a firm is its management of its cash conversion cycle the more the influence of working capital on its performance.

### 5.1 Policy Recommendations

Following the findings from this study the following recommendations are made:

- (i) Appraisal of Working Capital Management by Firms: our study have shown that working capital can either have a negative or positive relationship with an organization performance. On this note it is recommended that firms should conduct a thorough appraisal of their trends of performances and working capital. This will enable them to design a proper line of action that suits their performance enhancement.
- (ii) Need to Maintain a Minimum Level of Working Capital: Efforts should be made by organizations to encourage maintenance of at least a minimum inventory level as these will enable them to meet some unforeseen commitments Saswata (2010). That is despite the fact that there existed a negative relationship between working capital and performance of six out of the ten firm, it is important for firms to keep a



minimum cash conversion level so as to meet unexpected expenditure arising from the organizations, operations.

- (iii) Provision of Enabling Environment for Business Organizations to Thrive: The reason why working capital failed to have significant impact on organization performance in Nigeria might not be farfetched considering the business environment in Nigeria. Authors like Smith(1987), Melita (2010) and Deloof (2003) have emphasized economic instability, political instability, power generation, security, government policies and corruption as major factors that influence business organizations' performances in most developing countries like Nigeria. This is very evident in Nigeria as the business environment in country is incessantly prone to insecurity, unstable government policy, dearth of infrastructural facilities, poor supply of electricity and a host of other impediments to organizations performance that are inherent in Nigerian business environment. Therefore the earlier the Nigerian government tackles all these menace confronting the country's business environment the better the performance of business organizations.

## REFERENCES

- [1] Altman, E. I. ( 1968) Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy . The Journal of Finance, Volume 23, Number 4, pp. 589-609.
- [2] Archer, S. H. (1966) A Model for the Determination of Firm Cash Balances . The Journal of Financial and Quantitative Analysis, Volume 1, Number 1, pp. 1-11.
- [3] Ashby, A. ( 2005), Do s and Don t s for Good Cash Management . Financial Executive, pp. 58-60.
- [4] Biais, B., and Gollier, C. (1997) Trade Credit and Credit Rationing . The Review of Financial Studies, Volume 10, Number 4 pp. 903-937.
- [5] Bierman, H., Chopra, K., and Thomas, J. ( 1975) Ruin Considerations:vOptimal Working Capital and Capital Structure . The Journal of Financial and Quantitative Analysis, Volume 10, Number 1, pp. 119-128.
- [6] Borde, S. F.,and McCarty, D. E. ( 1998) Determining the cash discounts in the firm s credit policy: An evaluation . Journal of Financial and Strategic Decisions, Volume 11, Number 2. pp. 41-49.
- [7] Brealey, R. A.,and Myers, S. C., Allen, F. (2008), Principles of Corporate Finance . 9th edition, McGraw-Hill, New York.
- [8] Brick, I. E.,and Fung, W., K., H. (1984) Taxes and the Theory of Trade Debt . The Journal of Finance, Volume 39, Number 4, pp. 1169-1176.
- [9] Chee, K. Ng, Smith, J. K., and Smith, R. L. ( 1999) Evidence on the Determinants of Credit Terms Used in Interfirm Trade The Journal of Finance, Volume 54, Number 3, pp. 1109-1129.
- [10] Deloof, M. (2003), Does Working Capital Management Affect Profitability of Belgian Firms? . Journal of Business Finance & Accounting, 30(3) & (4), pp. 573-587.
- [11] Egan, J. J., III, Schnoor Jr, W. J.,and Bison, M. H. ( 2008), Reviewing Policies to Ensure Cash As Needed . Financial Executive, pp. 24-27.
- [12] Elliehausen, G. E.,and Wolken, J. D. (1993) The demand for Trade Credit: An Investigation of Motives for Trade Credit Use by Small Businesses . Board of Governors of the Federal Reserve System, Washington, DC 20551.
- [13] Fazzari, S. M., and Petersen, B., C. (1993) Working Capital and Fixed Investment: New Evidence on Financing Constraints . The RAND Journal of economics, Volume 24, Number 3, pp. 328-342.
- [14] Filbeck, G.,and Krueger, T. M. (2005) An Analysis of Working Capital Management Results Across Industries . Mid-American Journal of Business, Volume 20, Number 2, pp. 11-18.
- [15] Gentry, J. A., Metha, D. R., Bhattacharyya, S. K., Cobbaut, R., and Scaringella, J-L. ( 1979) An International Study of Management Perceptions of the Working Capital Process . Journal of International Business Studies, Volume 10, Number 1, pp. 28-38.
- [16] Gundavelli, V. ( 2006), 7 Steps to Elevating Working Capital Performance . Management Executive, pp. 52-54. Harris, A. (May 2005) Working capital management: difficult, but rewarding . Financial Executive.
- [17] Horrigan, J. O. ( 1965) Some Empirical Bases of Financial ratio Analyses . The Accounting Review, Volume 40, Number 3, pp. 558-568.
- [18] Kerklaan, L. A.(2006) De cockpit van de organisatie; Prestatiemanagement met behulp van scorecards . 3e gewijzigde druk, 4e oplage 2006. Kluwer Deventer.
- [19] Kesseven P.(2006). Trends in Working Capital Management and its Impact on Firms' Performance: An Analysis of Mauritian Small Manufacturing Firms International Review of Business Research Papers Vo.2 No. 2. October 2006, Pp. 45 -58
- [20] Kim, C-S., Mauer, D. C., and Sherman, A. E. ( 1998) The Determinants of Corporate Liquidity: Theory and Evidence . The Journal of Financial and Quantitative Analysis Volume 33, Number 3, pp. 335-359.
- [21] KPMG (2006) Noordooft-Nederland in Zaken; Trends en ontwikkelingen in het regionale bedrijfsleven 2000-2004 .
- [22] Lazaridis, I., and Tryfonidis, D. (2006) Relationship between working capital management and profitability of listed companies in the Athens stock exchange . Journal of Financial Management and Analysis 19(1), pp. 26-35.
- [23] Leach, J. C., and Melicher, R. W. (2006), Finance for Entrepreneurs . 3rd edition, South-Western Cengage Learning, USA.
- [24] Lev, B. (1969) Industry Averages as Targets for Financial Ratios . Journal of Accounting Research, Volume 7, Number 2, pp. 290-299.
- [25] Maysami, R. C., ( 2008) Understanding and controlling cash flow Financial Management Series, U.S. Small Business Administration, FM-4.
- [26] Melita., C. S.(2010) The Effect Of Working Capital Management On Firm's Profitability: Empirical Evidence From An Emerging Market Journal of Business & Economics Research – December, 2010 Volume 8, Number 12.
- [27] Merchant, K. A.,and Van der Stede, W. A. (2007), Management Control Systems; Performance Measurement, Evaluation and Incentives . 2nd edition, Pearson Education Limited, England.
- [28] Merville, L. J.,and Tavis, L. A. (1973) Optimal Working Capital Policies: A Chance-Constrained Programming Approach . The Journal of Financial and Quantitative Analysis, Volume 8, Number 1, pp. 47-59.
- [29] Muhammad, A. and Syed .I (2011) Impact of Working Capital Management on Firms' Performance: Evidence from Non-Financial Institutions of KSE-30 index. interdisciplinary journal of contemporary research in business vol 3 no.5

- [30] Myers, R. (2008) No Time to Lose: The 2008 Working Capital Scorecard Tempted to extend payment terms? That s one sign that working capital demands your immediate attention . CFO Magazine.
- [31] Navon, R. ( 1996) Company-Level Cash-Flow Management . Journal of Construction Engineering and Management, pp. 22-29.
- [32] Nazir, M.S.,and Afza, T. (2008) On the factor determining working capital requirements . Proceedings of ASBBS, Volume 15, number 1, pp. 293- 301.
- [33] Niskanen, J.,and Niskanen, M. (2000) Accounts Receivable and Accounts Payable in Large Finnish Firms Balance Sheets: What Determines Their Levels? . The Finnish Journal of Business Economics / LTA 4/00 pp. 489-503.
- [34] Orgler, Y. E. (1969) An Unequal-Period Model for Cash Management Decisions . Management Science, Volume 16, Number 2, pp. B77-B92.
- [35] Petersen, M. A.,and Raghuram, G. R. ( 1997) Trade Credit: Theories and Evidence . The Review of Financial Studies, Volume 10, Number 3, pp. 661-691.
- [36] Robichek, A. A., Teichrow, D., and Jones, J. M. ( 1965) Optimal Short Term Financing Decision . Management Science, Volume 12, Number 1, Series A, Sciences, pp. 1-36.
- [37] Sagan, J. (1955) Toward a Theory of Working Capital Management . The Journal of Finance, Volume 10, Number 2, pp. 121-129.
- [38] Schwartz, R.A. (1974) An Economic Model of Trade Credit . The Journal of Financial and Quantitative Analysis, Volume 9, Number 4, pp. 643- 657.
- [39] Shin, H-H.,and Soenen, L. (1998) Efficiency of Working Capital Management and Corporate Profitability . Financial Practice and Education, Financial Management Association International, pp. 37-45.
- [40] Smith, J. K. ( 1987) Trade Credit and Informational Asymmetry . The Journal of Finance, Volume 42, Number 4, pp. 863-872.
- [41] Wilner, B. S. (February 2000) The exploitation of Relationships in Financial Distress: The Case of Trade Credit . The Journal of Finance, Volume 55, Number 1, pp. 153-178.