



## EFFECT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF NIGERIAN PETROLEUM RETAIL FIRM

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### **Abstract**

*This study focuses on the accounting and financial statement analysis perspective of working capital, which focuses on current assets and current liabilities measured on the balance sheet. The study examined the effect of working capital management on organization*

### **Keywords**

Inventory, Asset, Working Capital, Profitability and Liabilities

*performance of entire MRS Oil and Gas listed in the Nigerian Stock Exchange as at 2012 - 2016. Multiple regression analysis was employed to determine the*

### **INTRODUCTION**

The concept working capital (WC) has been viewed by a number of authors and scholars. For instance, Khan (2012) viewed WC as items (such as stock, creditors and cash) that are required for the day to day production of goods to be sold by a company. To Ramachandran and Janakiraman (2007), WC is the flow of ready funds necessary for the working of a concern. They stated that WC comprises of funds invested in current assets and current liabilities. To Falope and Pandey (2005), WC is the firm's investment in short term assets. They emphasized that these assets are the lifeblood of a business

*relationship between profitability measured enough to influence working capital in Return on Asset are profitability. It is management and combination of Cash recommended that the organizational Conversion Circle, company should take performance of MRS Average Days of every working variable Oil and Gas Plc and its Inventory, Average as significant since effect. The findings Day Receivable and their combined effort depict that the most Average Day Payable are needed for important Working (ADP). However, organisation Capital Management singularity each performance. componenst that component is not drives the firm's statistically significant*

enterprise largely due to their importance in the production and sales activities. It is the management of these assets that is called WCM. Efficient management of WC is very essential in the overall corporate strategy in creating shareholders value (Nazir and Afza, 2009), agreeing with this view, Eljelly (2004) states that WCM involves planning and controlling current assets and current liabilities in a manner that eliminates the risk of inability to meet due short term obligations on one hand and avoid excessive investment in current assets on the other hand.

The basic objective of WCM therefore, is to ensure that a firm's current assets and current liabilities are maintained at a satisfactory level. That is, to avoid neither more nor less WC but to ensure that it is just adequate (Lazaridis and Tryfonidis, 2006). This view supports the observation made by Nobanee and AlHajjar (2009) who observed that excessive level of current assets may have a negative effect on a firm's profitability, where as a low level of current assets may lead to low level of liquidity and stock-outs thereby resulting in difficulties in maintaining smooth operations. Components of working capital management (WCM): WCM processes involve crucial decisions on multiple aspects, including the investment of available cash, maintaining a certain level of inventories, managing accounts receivable and accounts payable (Pandey, 2005).

Working capital management (WCM) refers to all management decisions and actions that ordinarily influence the size and effectiveness of the working capital (Padachu and Pedro, 2006). It is a managerial accounting strategy which focuses on maintaining efficiency levels of current assets and current liabilities to ensure that a firm has sufficient cash flow in order to meet its short term obligations. Working Capital Management (WCM) is an essential part of financial management and contributes significantly to a firm's wealth creation as it directly influences organizational profitability and liquidity (Raheman & Nasr, 2007). The most important issue in WCM is the maintaining of liquidity in the day to day operations of the firm. Working capital performance provides critical insight into the state of a company's financial position. As an important indicator of financial fitness, the availability of a company's working capital is one of the first items a lender or investor will examine on a balance sheet (Uremadu, Egbide and Enyi 2012). Globally 1000 companies lose about \$2billion per year due to poor working capital management.

The recent financial and economic crisis has shown how important it is for firms to maintain a healthy cash position. The risk of becoming illiquid always increases in times of credit constraints and economic meltdown. However, companies are still unable to properly assess their cash needs (Khan, 2012).

The objective of WCM is to maintain an optimal level among each of the WC components. Therefore, in the desire to achieve this objective, most of the financial manager's time and efforts are consumed in identifying the non-optimal levels of current assets and current liabilities with a view to bringing them to optimal levels (Pandey, 2005). The optimal level of WC, which is a balance between risk and efficiency, is maintained by continuous monitoring of the various components of Working Capital (WC). Business success heavily depends on the ability of the financial managers to effectively manage these components of WC (Singh and Pandey, 2008). Therefore, WCM can be considered as all managerial decisions.

Working capital also refers to the firm's investment in two types of assets, a firm's investment in short-term (current) assets needed to operate over a normal business cycle, and a company's investments in overall non-fixed assets that are not often measured on the balance sheet such as investment

in product redesign or formulation of a new marketing strategy (Owolabi and Alayemi 2010).

This paper focuses on the accounting and financial statement analysis perspective of WC, which deals on current assets and liabilities measured on the balance sheet in order to examine the effect of working capital management on profitability in a retail firm.

### **Aim and Objectives**

The aim of this study is to examine the effect of working capital management on profitability of Nigerian petroleum retail firm. The objectives of the study are to:

- i. Investigate the impact of cash conversion cycle on the profitability of Nigerian petroleum Retail Firm.
- ii. Examine the effect of inventory held in a number of days on the profitability of Nigerian petroleum retail firm
- iii. Determine the impact of accounts receivable in a number of days on the profitability of Nigerian Petroleum Retail Firm.
- iv. Determine the impact of trade and other payables on profitability of Nigerian Petroleum Retail Firm.

### **Research Hypothesis**

Four hypotheses have been formulated in their null form for this research work. They are:

H<sub>01</sub>: Cash conversion cycle has no significant impact on the profitability of Nigerian petroleum retail firm

H<sub>11</sub>: Cash conversion cycles has significant impact on the profitability of Nigerian petroleum retail firm.

H<sub>02</sub>: No of days for a company to hold inventory has no significant impact on the profitability of Nigerian petroleum retail firm.

H<sub>12</sub> No of days for a company to hold inventory has significant impact on the profitability of Nigerian petroleum retail firm.

H<sub>03</sub> Account receivable per annum has no significant impact on the profitability of Nigerian petroleum retail firm.

H<sub>13</sub> Account receivable per annum has significant impact on the profitability of Nigerian petroleum retail firm.

H<sub>04</sub> Trade and other payables (ADP) in a year has no significant impact on the profitability of Nigerian petroleum retail firm.

H<sub>14</sub> Trade and other payable (ADP) in a year has significant impact on the profitability of Nigerian petroleum retail firm.

### Methodology

This study adopted an inferential statistics design. This was used for the purpose of obtaining data to enable the researcher test hypothesis. The area in which this study covered is petroleum retail firm. The study examined the effect of working capital management on organization performance entire MRS Oil and Gas listed in the Nigerian Stock Exchange as at 2012 - 2016. The data was extracted from the Annual reports and accounts of the company, hence the data used was a secondary one.

### Method of data Analysis

Multiple regression analysis was employed to determine the relationship between working capital management and organizational performance of MRS Oil and Gas Plc. Level of significance  $\alpha$  stands at 0.05. The analysis was done with the aid of Statistical Package for Social Sciences (SPSS) version 21.

### Data Analysis

However, to use regression analysis, some assumptions have to be tested on the data, in which among others and very important is linearity test. But the data did not confirm to linearity assumption which lead to transforming the raw data into Natural logarithm format.

**Table 1: Original Data**

YEAR	ROA	CCC	ADI	ADR	ADP
2012	6.81	42.2	21.36	90.77	69.93
2013	0.01	35.29	33.96	93.46	92.13
2014	0.02	30.48	16.34	88.23	74.09
2015	0.02	25.13	28.32	92.84	96.03
2016	0.03	65.54	25.34	156.5	116.3

Source: Annual reports of MRS Oil and Gas Plc 2012 - 2016

Definition of Research Variables

- ROA - Return on Asset  
 CCC - Cash Conversion Cycle  
 ADI - Average days of Inventory  
 ADR - Average Days Receivable  
 ADP - Average Days Payable

**Table 2: Natural log of the Data**

YEAR	Ln ROA	Ln CCC	Ln ADI	Ln ADR	Ln ADP
2012	1.91	3.74	3.06	4.50	4.24
2013	4.60	3.56	3.52	4.53	4.52
2014	3.19	3.41	2.79	4.47	4.30
2015	3.91	3.22	3.34	4.53	4.56
2016	3.50	4.18	3.23	5.05	4.75

*Source: Researchers' computation*

#### **Data Analysis Method & Result**

Return on Asset (ROA) was used as proxy for company profitability and independent variables are CCC, ADI, ADR, and ADP the outputs of the analysis are discussed below.

#### **Model Speculation (Regression)**

The Regression Analysis Model developed for this study is intended to examine the relationship between profitability of company and its components.

$$\text{ROA} = \beta_0 + \beta_1 \text{CCC} + \beta_2 \text{ADI} + \beta_3 \text{ADR} + \beta_4 \text{ADP} \text{ ----- eq (ii)}$$

$$\text{Ln ROA} = \beta_0 + \beta_1 \text{Ln CCC} + \beta_2 \text{Ln ADI} + \beta_3 \text{Ln ADR} + \beta_4 \text{Ln ADP} \text{ ----- eq (iii)}$$

**Table 3: Correlations**

	Ln ROA	Ln CCC	Ln ADI	Ln ADR	Ln ADP
Person correlation	1.000	0.243	-0.326	-0.166	-0.577
Ln ROA					
Ln CCC	0.243	1.000	0.022	0.844	0.420
Ln ADI	-0.326	0.022	1.000	0.174	0.601
Ln ADR	-0.166	0.844	0.174	1.000	0.797

<b>Ln ADP</b>	-0.577	0.420	0.601	0.797	1.000
<b>Sig (1 tailed)</b>		<b>0.347</b>	<b>0.296</b>	<b>0.395</b>	<b>0.154</b>
<b>Ln ROA</b>					
<b>Ln CCC</b>	0.347		0.486	0.036	0.240
<b>Ln ADI</b>	0.296	0.486		0.390	0.142
<b>Ln ADR</b>	0.395	0.036	0.390		0.053
<b>Ln ADP</b>	0.154	.240	0.142	0.053	
<b>Ln ROA</b>	5	5	5	5	5
<b>Ln CCC</b>	5	5	5	5	5
<b>Ln ADI</b>	5	5	5	5	5
<b>Ln ADR</b>	5	5	5	5	5
<b>Ln ADP</b>	5	5	5	5	5

The correlation among the independent variables indicate that Return on Asset (ROA) positively correlates with CCC and Positively with ADI but weak, however it has negative relationship with ADR and ADP. Also, individually each explanatory variable are not significantly related unless they are consider and operate collectively and simuteaneously as indicated in Table 3: 0.347, 0.296, 0.395 and 0.154 for CCC, ADI, ADR and ADP respectively.

**Table 4: Hypothesis Testing**

	Unstandardized coefficient		Standardized coefficient	
	B	Std. Error	Beta	Sig.
<b>1 (constant)</b>	9.195	1.965		
<b>Ln CCC</b>	30.495	-0.563	-4.169	0.567
<b>Ln ADI</b>	26.926	5.654	2.815	0.065
<b>Ln ADR</b>	98.871	1.573	8.966	0.764
<b>Ln ADP</b>	99.195	-0.853	-7.659	0.231

Source: Regression Output

From the above table 4, the model is

$$\text{Ln ROA} = 9.195 + 30.495 \text{ Ln CCC} + 26.926 \text{ Ln ADI} + 98.871 \text{ Ln ADR} + 99.195 \text{ Ln ADP}$$

.....eq(iii)

### **Hypotheses Testing**

The P-values for  $B_i$ s are all greater than 0.05 level of significant (table 4) which is in concordance with the correlation analysis above (Table 3). Therefore, all aforementioned null hypotheses are accepted. However, the above test is for the individual relation to the dependent variable; Return on Asset (ROA) that is profitability. The overall or combined effort of independent variable i.e. CCC, ADI, ADR, and ADP are significant and the model is fit for prediction as depicted in table 5.

**Table 5: Model Summary**

Model	R	R-Square	Adjusted Square	R Std Error of the Estimate
1	.801 <sup>a</sup>	0.642	0.65234	0.4532
Predictor (constant) Ln ADP, Ln CCC, Ln ADI, Ln ADR				

### **Discussion on R-Square ( $R^2$ )**

64.2% of independent variable explained the dependent variable, the remaining 35.8% accounts for other variables not considered in the analysis. However, the model is good enough for prediction, since  $R^2$  (0.642) is greater than 0.5.

### **Summary**

#### **Theoretical Implication**

The findings of this study indicated that Working Capital Management (WCM) practice on MRS Oil & Gas Plc support the conservative strategy of Working Capital Management (WCM) with the conservative strategy, a positive relationship should exist between CCC, ADI, ADR, ADP and profitability. This study also found support for the controlled variables that can affect the estimation of organization profitability. Previous research indicates that many factors such as industry effect, firm effect, financial strategy effect as well as size of the organization consistent with prior research. The independent variables indicated that Return on Asset (ROA) positively correlates with CCC and positively with ADI but weak, it's however universally proportioned with ADR and ADP.



### **Managerial Implication**

The findings for the individual relation to the dependent variable Return on Asset (ROA) that is profitability indicates that there is no significant but the overall combined effort of the independent variables i.e. CCC, ADI, ADR and ADP indicate that there is significant relationship. This implies that the firms might have different working capital needs and pursuing different Working Capital Management (WCM) strategies and focus. Finally the working model generated through this research work for prediction and forecasting to enhance profit maximization is

$$\text{Ln ROA} = 9.195 + 30.495 \text{ Ln CCC} + 26.926 \text{ Ln ADI} + 98.871 \text{ Ln ADR} + 99.195 \text{ Ln ADP} .$$

### **Conclusion**

The paper examined the impact of Working Capital Management (WCM) on profitability of MRS Oil & Gas PMC in Nigeria for the period of five years, 2012 to 2016. Based on objective analysis of the results and findings, this study concludes that the most important Working Capital Management (WCM) component that drives the firm's profitability measured in Return on Asset (ROA) are combination of Cash Conversion Circle (CCC) Average Days of Inventory (ADI), Average Day Receivable (ADR) and Average Day Payable (ADP). However, singularity each component is not statistically significant enough to influence profitability.

### **Recommendations**

The findings have important implications for both Working Capital Management (WCM) theory and management of small and medium scale petroleum retail firms. The recommendations emanated from the study are as discussed below:

- i. Future research should be done to include a wider number of petroleum retail firms from similar African contexts to provide more generalizable findings and compare the result with that found in this study.
- ii. The measurement of profitability in this study was Return on Asset (ROA) which means that management should take every working variables as significant since their combined effort are needed.

iii. Last but not the least, an Accountant should be employed to maintain the account and financial activities of the company as well as Statistician for scientific research and proper planning for policy formation

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