

# Working Capital Management and Profitability of the Manufacturing Sector: An Empirical Investigation of Nestle

Ikpefan<sup>1</sup>, ochei ikpefan<sup>2</sup> and Owolabi<sup>3</sup>

<sup>1</sup> Covenant University

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## Abstract

Working capital management is very fundamental to the liquidity and profitability of any organisation and the two variables are vital in evaluating the performance and ultimately deciding the survival of any organisation. This study presents an empirical investigation of the relationship between working capital management and profitability using Nestle Nigeria Plc and Cadbury Nigeria Plc as case studies. The study used correlation and regression analysis to analyse data. Quick ratio was used to measure liquidity, current ratio, trade receivable collection and trade payables payment periods were used as efficiency variables to capture the working capital management policy adopted by these companies while return on equity was used as the profitability variable. Liquidity and efficiency variables were correlated against return on equity. The study found a negative relationship between the liquidity, two of the efficiency ratios and return on equity for Nestle Nigeria Plc while it found a positive relationship between the liquidity, efficiency ratios and return on equity of Cadbury Nigeria Plc. To enhance profitable short-term investments, the study recommends that companies should manage their working capital efficiently by upgrading the quality of their assets while obsolete inventories should be written off.

**Index terms**— working capital management, liquidity, profitability, working capital management policy.

## 1 Introduction

It is imperative for every business to have sufficient liquid resources so as to maintain a daily cash flow. This is not only essential in the short run but it is much necessary to keep a business as a going concern (BPP, 2006). It therefore implies that it is a vital element of an organisation. However, as important as that is, care must be taken so that balance is maintained in the level of liquidity of a firm since "cash pays no interest" (Uremadu, Egbide and Enyi, 2012). The short-term solvency of a firm is a function of how liquid a firm is and also crucial to the working capital. Working capital is the difference between a firm's current assets and current liabilities. Furthermore, Pass and Pike's study (as cited in myfinancelab, n. d.) posits that working capital management Author ? : Department Of Banking and Finance, Covenant University, Ota, Ogun State, Nigeria. e-mails: Ochei\_ikpefan@yahoo.co.uk; ochei.ikpefan@covenantuniversity.edu.ng Author ? : Department of Accounting, Covenant University, Ota, Ogun State, Nigeria. e-mail: Owolabi.folashade@covenantuniversity.edu.ng ment is to increase the profitability of a company and to ensure that it is liquid enough to meet its obligations in the short-term. Also, working capital has a lot to do with how risky a business is and therefore managing it properly can improve the performance of an organisation. According to Sen and Oruc (2009), working capital management is consequential to a firm and this is usually explained by the relationship between working capital management and profitability.

Before the wake of the global recession, working capital management has been an important subject matter to ensuring the stability and hence the survival of a business and after the economic meltdown it became much more

important. According to a study carried out by the Royal bank of Scotland (RBS, 2011), it was found that as a result of the last economic recession that hit the world, companies around the world especially in North America, Europe and Asia have tried to improve on their efficiencies and one of their strategies is the management of their working capital. This study investigates if the statement is also true for Nigeria based companies, using Nestle Nigeria Plc and Cadbury Nigeria Plc as case studies. In addition, what defines how an organisation manages her working capital is consequent on the policies adopted by her. In this paper, working capital management was examined in the light of two policies which are the aggressive and conservative policies.

### 2 a) Background Information about Study Sample

Nestlé foods Nigeria Plc is a Nigeria-based Company engaged in the food sector. The Company is focused on the manufacturing, marketing and distribution of cereals, beverages, confectionery, bouillon, and table water. Nestlé Nigeria Plc is part of the Nestlé group, the respected and trustworthy Nutrition, Health and Wellness Company renowned world-wide for its high quality products. The company began trading operations in Nigeria in 1961 and has today grown into a leading food manufacturing and marketing company. Nestlé Nigeria Plc was listed on the Nigerian Stock Exchange on April 20, 1979. Nestlé S.A of Switzerland and Nestlé CWA Limited, Ghana is the major share-holder of the Company. As at December 2012, the number of shareholders was more than 30,000.

The strategic priorities of the Company are focused on delivering shareholder value through the achievement of sustainable and profitable long-term growth. The Company's turnover in year 2012 was N116.7billion and profit after tax was N21.1billion (Annual Report & Accounts, 2012). With its historical root in nutrition, wide product portfolio and strong brands, Nestlé Nigeria Plc appears to be positioned to continue to contribute meaningfully to the growth of the food industry in Nigeria.

Cadbury Nigeria PLC was incorporated on 9 January, 1965. Cadbury Nigeria Plc is principally engaged in the manufacture and sale of branded fast moving consumer goods mostly to the Nigerian market, but increasingly for exports as well. ??

### 3 b) Rationale for the Choice of Study Sample

The choice of Nestlé Nigeria Plc and Cadbury Nigeria Plc for this study is hinged on a variety of reasons. First, both companies made the Forbes top 25 companies in Africa for year 2012 (Adeyemo, 2012). Second, they are among the biggest companies listed on the Nigerian Stock Exchange and have sustained a good track performance over a period of time. Third, they are the only companies listed as food products diversified on the floor of the Nigerian Stock Exchange (NSE). Thus, an evaluation of the performance indicators of these companies will elucidate the factors leading to their emergence as strong brands in the Nigerian market. The objectives of this study are following research are as follows:

1. To ascertain the relationship between quick ratio and profitability of food products companies in Nigeria using empirical data.
2. To ascertain the working capital management policy adopted by each of the companies and its effect on profitability using empirical data.

The following research questions will be answered in this study:

1. What is the relationship between quick ratio and profitability of food products companies in Nigeria?
2. What type of working capital management policy is adopted by each of the companies and what is the effect of the policy on profitability.

The following null hypotheses were formulated and tested for the study:

1.  $H_0$  : There is no significant relationship between quick ratio and profitability of food products companies in Nigeria.

### 4 $H_0$ :

There is no significant relationship between working capital management policy adopted by food products companies in Nigeria and profitability?

Therefore, against this backdrop, there is the need to examine this need to investigate the relationship between working capital management and profitability of the manufacturing sector specifically Nestle Nigeria Plc and Cadbury Nigeria Plc. This paper is therefore divided into five sections with Introduction being section one. Section two and three dwell on literature review and methodology. Section four dwells on data presentation and analysis while section five ends with conclusion and recommendation II.

## 5 Literature Review

Ikpefan and Enahoro (2007) used time series (ordinary least square method) to analyse sales, operating leverage, financial leverage and combined leverage in the manufacturing sector specifically Nigerian brewery industry between . The result showed that sales, operating leverage, financial leverage and combined leverage have significant influence on earnings of Nigerian Brewery Plc. This study is an attempt to investigate the Nigerian manufacturing sector with emphasis now on working capital management. There have been many studies carried out on the subject of liquidity and profitability and this section is devoted to the review of the existing literatures on this subject. Nonetheless, this paper used the most recent information available in doing a comprehensive

analysis. Uremadu et al. (2012) studied the effect of working capital management and liquidity on corporate profits among Nigeria firms using 25 manufacturing companies for the period of two years and they found there is a significant relationship between liquidity and corporate profitability in the firms studied with the relationship being either positive or negative. Owolabi and Alayemi (2010) in their study of working capital as a financial strategy found that there is a strong and negative relationship between the working capital (especially in terms of whether the company adopted an aggressive or conservative approach in managing their working capital) and the profitability of a Nigerian manufacturing firm. Again, Almazari (2013) studied eight Saudi cement firms and found that liquidity and profitability and consequent upon working capital management and there is a significant relationship between liquidity and profitability. Also, Shin and Soenen (1998) in their empirical investigation found that there is a negative and even significant relationship between liquidity and profitability for all variables used. However, Pira (n.d.) in analysing the relationship between liquidity and profitability took a sample of 48 airline companies and observed that for the three years studied, there was a positive although significant relationship between the liquidity and profitability of firms which contradicted usual findings in other literatures. Although he noted that companies with better liquidity ratios had better performance in the face of financial crisis using year 2008 which was the year of the global financial crisis as the basis for judgment. In their work, Pedro and Pedro (2007) studied the effects of working capital management on the profits of 8872 companies and found out that shortening the cash conversion cycle improves the profitability of companies. This implies that there is a negative relationship between liquidity and profitability. Cash conversion cycle is a measurement of liquidity as well as a working capital management variable. It is calculated as: Inventory days + trade receivable days - trade payable payment period

On the other hand, Hirigoyen's study (as cited in Roman & Tomuleasa, 2012) posits that on mid and long-term basis, there can exist a positive relationship between liquidity and profitability implying that a low liquidity would lead to a lower profitability. He argued this by analysing it as a vicious cycle whereby if a company has need for loan, it will lead to a reduced profitability and at the end would not generate adequate cash flow to sustain the growth of its need and hence leading to a liquidity-profitability trade-off. Furthermore, according to Gul et al. (2013), the relationship between liquidity and profitability can either be positive or negative. In their findings, accounts payable has a positive relationship with profitability while average collection period, inventory turnover and cash conversion cycle have a negative relationship with profitability. Therefore, Charitou, Elfani and Lois (2010) concluded that there are "inconclusive and inconsistent" results with respect to how working capital management affects the profitability of an enterprise.

## 6 III.

## 7 Methodology

The annual report and financial statements of Nestlé Nigeria Plc and Cadbury Nigeria Plc were accessed and from the reports, all key ratios to this paper were computed on the basis of information obtained in the statement of comprehensive Income and the Statement of financial position. Correlation and regression analysis was used in analysing the data.

## 8 a) Model Specification

This study establishes the relationship between liquidity, working capital management and profitability variables. Therefore a model is specified based on this as follows:  $ROE = f(QR, CR, TRCP, TPPP)$

Assuming a linear relationship between the variables, the specification of the regression equation for the main model 1 above could be written explicitly states as:  $ROE = \beta_0 + \beta_1 QR + \beta_2 CR + \beta_3 TRCP + \beta_4 TPPP + u$  it(2)

Where:  $\beta_0$  ROE is used as a measure of profitability and it is calculated as profit after tax/total equity.  $\beta_1$  QR is used as a measure of liquidity.  $ROE =$

$\beta_2$  It is calculated as (current assets-inventory)/current liabilities.  $\beta_3$  CR is used as a measure of working capital management.  $\beta_4$  It is calculated as current assets/current liabilities.

$\beta_5$  TRCP is the number of days taken to collect monies from trade debtors. It is used as a measure of working capital management and policy adopted. It is calculated as trade receivables/ turnover \* 365 days  $\beta_6$  TPPP is the number of days taken to pay trade creditors. It is used as a measure of working capital management and policy adopted. It is calculated as trade payables/cost of sales \* 365 days.

IV. In table 4-4, the statistical result found there is a negative but not significant relationship between the quick ratio and the return on equity of Nestle Nigeria Plc. This implies that if the quick ratio reduces, profitability increases for Nestle and vice-versa. This is consistent with the findings of Deloof (2003) that there is a negative relationship between liquidity and profitability of firms. However, the current ratio shows a positive relationship with the return on equity (ROE). The positive relationship between current ratio and ROE implies that if current ratio increases, profitability also increases. Drawing from tables 4-2 and 4-3, the ratio of current assets to current liabilities for the five (5) years under consideration was approximately one (1). This may not be satisfactory because according to Pandey (2005), it is a ratio of 2:1 between current assets and current liabilities that is considered satisfactory. Therefore, anything above that may mean there is a problem.

## 9 Data Presentation and Analysis

For example, it may mean that there are obsolete inventories that are no longer of good quality being carried as current assets. The reason why this is possible is that current ratio only measures quantity and not quality. Hence, it may increase to a level where it will not translate to profitability for Nestle Plc. Also, if it is lower than that range, then the firm may find it difficult to meet its obligations in the short-term. On the other hand, the trade receivable collection period shows a negative relationship with ROE, it is however not a significant relationship. The trade payable payment shows a significant negative relationship with the ROE. This therefore implies that as the payment period is increasing the profitability of Nestle will decrease and vice-versa and this variable has the highest impact on profitability. This result is in line with the result of Uremadu et al. (2012). This is a possible situation showing that available funds are not well utilised. Furthermore, combining the results of the working capital management variables, it is seen that Nestle adopted a conservative approach to working capital management and so its working capital was not adequately managed during the period studied. From the ratios computed (see table , quick ratio was never up to the ratio of 1:1 which is the widely accepted standard. Again, the current ratio was not up to 2:1 in the period under consideration and in years 2009 and 2011, it was less than 1. The trade receivables collection and payables payment periods fluctuated sometimes widely throughout the period of study implying that there is no strict policy as regarding the working capital management. This implies that the working capital management of Nestle Nigeria Plc is not efficient enough. Hence, they are conservative about their working capital management. Consequently, from table 4-4, we accept the two hypotheses stating that there is no significant relationship between quick ratio and profitability of Nestle Nigeria Plc and also there is no significant relationship between working capital management policy adopted by Nestle and its profitability. However, out of the three variables used, only one that was significant that is trade payable payment period is significant to profitability. From table 4-8, the result shows that there is a positive significant relationship between quick ratio and ROE of Cadbury Nigeria Plc. This is consistent with the result of Hirigoyen's study (as cited in Roman & Tomuleasa, 2012) which argues that it is possible to have a positive relationship between liquidity and profitability in the mid and long term. The current ratio, trade receivables collection period and trade payable payment periods all reveal a positive relationship with profitability but only that of current ratio is significant at 8%. Although, Cadbury seems to have a better liquidity ratio (tables 4-7/4-3) than Nestle Plc. Nonetheless, the result reveals inefficiency in their working capital management because while trade receivables collection period reduced, the trade payable payment period increased much more. Besides, both companies failed to meet the minimum standard of 2.1 for working capital.

This agrees with the position of Pandey (2005) which says that it is possible for a company that has a high current ratio to suffer from insufficient funds while a company with lesser current ratio may be able to meet its obligation as it falls due. For Cadbury, table [4][5][6][7] shows that even when trade receivables collection period reduced, the trade payable payment period increased much more. For instance, the percentage change in trade receivables collection period between years 2008 and 2009 reduced by 41.3% whereas payable payment period only reduced by 5.3%. This suggests that there may be much slow-moving inventory as part of their current assets that could not be turned over as quickly as possible (which may be the advantage Nestle has enjoyed) or some of their debtors have become illiquid such that they cannot pay promptly. Hence, from table 4-8, we reject the first hypothesis because quick ratio shows a significant relationship with profitability and accept the second hypothesis which says there is no significant relationship between working capital management policy adopted by Cadbury and its profitability.

## 10 V. Conclusion and Recommendations

The study found that there is a negative relationship between liquidity and profitability with the exception of trade payables payment period which has a positive relationship for Nestle Nigeria Plc. On the positive relationship with profitability. Both companies can work on their working capital by managing it more efficiently. For example, quality of assets could be upgraded and obsolete inventories should be written off.

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Figure 1: C

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1 : Statement of Comprehensive Income for Nestle (2008-2012) N'000					
	2012	2011	2010	2009	2008
Turnover	116,707,394	97,961,260	82,726,229	68,317,303	51,742,302
Cost of sales	(66,538,762)	(57,368,192)	(46,495,387)	(39,956,777)	(31,300,680)
Gross profit	50,168,632	40,593,068	36,230,842	28,360,526	20,441,622
Operating profit	25,989,569	21,514,273	18,933,379	15,732,203	11,903,627
PBT	25,050,172	18,199,249	18,244,454	13,783,244	11,862,213
Tax	(3,912,897)	(1,702,796)	(3,642,345)	(3,999,666)	(3,530,614)
PAT	21,137,275	16,496,453	12,602,109	9,783,578	8,331,599

Figure 2: Table 4 -

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2 : Statement of Financial Position for Nestle (2008-2012) N'000					
	2012	2011	2010	2009	2008
Non-Current Assets	62,607,073	55,517,888	40,723,074	25,404,616	13,817,348
Current Assets	26,356,145	22,210,405	20,105,323	18,845,756	15,342,204
Total Assets	88,963,218	77,728,293	60,828,397	44,250,372	29,159,552
Current Liabilities	25,179,644	24,814,835	19,455,299	19,010,968	11,093,617
Non-Current Liabilities	29,598,012	29,703,474	26,026,410	14,695,469	9,034,695
Total Liabilities	54,777,656	54,518,309	45,481,709	33,706,437	20,128,312
Working Capital	1,176,501	(2,604,430)	650,024	(165,212)	4,248,587
Total Equity	34,185,562	23,209,984	14,865,353	10,543,935	9,031,240

Figure 3: Table 4 -

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2012	2011	2010	2009	2008
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Figure 4: Table 4 - 3 :

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Return on equity

Figure 5: Table 4 - 4 :

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Figure 6: Table 4 - 5 :

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6 : Statement of Financial Position for Cadbury (2008-2012) 2008  
 N'000 2012 2011 2010 2009 Source: Cadbury Nigeria Plc  
 Annual report and accounts (2008-2012)

[Note: Source: Cadbury Nigeria Plc Annual report and accounts(2008)(2009)(2010)(2011)(2012) ]

Figure 7: Table 4 -

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2012	2011	2010	2009	2008
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Figure 8: Table 4 - 7 :

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Return on equity

Figure 9: Table 4 - 8 :





[ Non-Current Assets] , 945.00. *Non-Current Assets* 13. (430.00 13,978,899.00 14,308,294.00 14)

[ Current Assets] , 261.00. *Current Assets* 26.

[ Total Assets ()] , 352.00 28. *Total Assets* 199.00 25,246,926.00 23. 40 p. 0.

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[Non-Current (Liabilities 3,211,728.00 3,192,000.00 3,247,199.00 3,569,746.00 3,733)] , Non-Current . Liabilities  
3,211,728.00 3,192,000.00 3,247,199.00 3,569,746.00 3,733. 526 p. 0.

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