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The Impact of Working Capital Management on the Profitability of Small and Medium Scale Enterprises in Nigeria

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ABSTRACT
The objective of the research study was to empirically investigate the impact of working capital management on the profitability of a sample of small and medium-sized Nigerian firms. The data for the study were collected from 30 SME's covering the single period of 2009. Data was collected from secondary sources (financial statement) and was analyzed using the multiple regression analysis. The results which are robust to the presence of endogeneity, demonstrate that managers can create value by reducing their firm's number of day's accounts receivable and inventories. Equally, shortening the cash conversion cycle also improves the firm's profitability.

Key words: Nigerian firms, profitability, small and medium scale enterprises, conversion cycle, working capital

INTRODUCTION
Management of current assets and liabilities is particularly important in the case of small and medium-sized companies (SME's). Most of these companies' assets are in the form of current assets. Also, current liabilities are one of their main sources of external finance in view of their difficulties in obtaining funding in the long-term capital markets and the financing constraints that they face. Small and medium-sized firms use vendor financing when they have run out of capital. Thus, efficient working capital management is particularly important for smaller companies.

The main objective of this study is to investigate the relationship between working capital management and the profitability of Nigerian SME's. However, the secondary objectives of the study are:

- To investigate the relationship between working capital management and the net profit of SME's
- To investigate the relationship between working capital management and gross profit margin
- To analyze the relationship between working capital management and return on capital employed

Literature review: Working capital is the difference between an organization's current assets and its current liabilities. Of more importance is its function which is primarily to support the day-to-day financial operations of an organization, including the purchase of stock, the payment of salaries, wages and other business expenses and the financing of credit sales. Working capital can be defined as the capital available for conducting the day to day operations of an organization represented by its net current assets (Adeniji, 2008). The working capital is the life-blood and nerve center of a business firm. It refers to firms' investment in short-term assets. Current assets are the assets which can be converted into each within an accounting year. It could also be regarded as the current assets less liability of the firm. Akinsulire (2008) refers to working capital as the items that are required for the day-to-day production of goods to be sold by a company. It can be defined as the excess of current assets over current liabilities.

Working capital management: Working capital management is a managerial accounting strategy focusing on maintaining efficient levels of both components of working capital, current assets and current liabilities, in respect to each other. Working capital management ensures a company has sufficient cash flow in order to meet its short-term debt obligations and operating expenses. Implementing an effective working capital management system is an excellent way for many companies to improve their earnings. The two main aspects of working capital management are ratio analysis and management of individual components of working capital. A few key performance ratios of a working capital management system are the working capital ratio, inventory turnover and the collection ratio. Ratio analysis will lead management to identify areas of focus such as inventory management, cash management, accounts receivable and payable management.

Efficient working capital management is necessary for achieving both liquidity and profitability of a company. A poor and inefficient working capital management leads to tying up funds in idle assets and reduces the liquidity and profitability of a company (Reddy and Kameswari, 2004). Efficient liquidity management involves planning and controlling current assets and current liabilities in such a manner that eliminates the risk of inability to meet due short-term obligations and avoids excessive investment in these assets. Working capital management could vitally affect the health of the firm (Sagan, 1955). Industry practices, company size, future sales growth of company, the proportion of outside directors on a board, executive compensation (current portion) and CEO share ownership significantly influence the working capital management efficiency of a company.

Working capital management 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 the one hand and avoid excessive investment in theses assets on the other hand (Eljelly, 2004). Lamberson *et al.* (1995) showed that working capital management has become one of the most important issues in organizations where many financial managers are finding it difficult to identify the important drivers of working capital and the optimum level of working capital. As a result, companies can minimize risk and improve their overall performance if they can understand the role and determinants of working capital. As a result, companies can minimize risk and improve their overall performance if they can understand the role and determinants of working capital. A firm may choose an aggressive working capital management policy with a low level of current assets as percentage of total assets or it may also be used for the financing decisions of the firm in the form of high level of current liabilities as percentage of total liabilities (Afza and Nazir, 2009).

Keeping an optimal balance among each of the working capital components is the main objective of working capital management. Business success heavily depends on the ability of the financial managers to effectively manage receivables, inventory and payables (Filbeck and Krueger, 2005). Firms can decrease their financing costs and raise the funds available for expansion projects by minimizing the amount of investment tied up in current assets. Lamberson *et al.* (1995) indicated that most of the financial managers' time and efforts are consumed in identifying the non-optimal levels of current assets and liabilities and bringing them to optimal levels. An optimal level of working capital is a balance between risk and efficiency. It ask continuous monitoring to maintain the optimum level of various components of working capital, such as cash receivables, inventory and payables (Afza and Nazir, 2009). A popular measure of working capital management is the cash conversion cycle which is defined as the sum of days of sales outstanding (average collection period) and days of sales in inventory less days of payables outstanding (Keown, 2003). The longer this time lag, the larger the investment in working capital. A longer cash conversion cycle might increase profitability because it leads to higher sales. However, corporate profitability might also decrease with the cash conversion cycle, if the costs of higher investment in working capital is higher and rises faster than the benefits of holding more inventories and granting more inventories and trade credit to customers (Deloof, 2003).

Efficient management of working capital plays an important role of overall corporate strategy in order to create shareholder value. Working capital is regarded as the result of the time lag between the expenditure for the purchase of raw material and the collection for the sale of the finished good. The way of working capital management can have a significant impact on both the liquidity and profitability of the company (Shin and Soenen, 1998). The main purpose of any firm is maximizing profit. But, maintaining liquidity of the firm also is an important objective. The problem is that increasing profits at the cost of liquidity can bring serious problems to the firm. Thus, strategy of the firm must be a balance between these two objectives. Because the importance of profit and liquidity are the same so, one objective should not be at cost of the other. If profit is ignored, we cannot survive for a longer period. Conversely, if we do not care about liquidity, we may face the problem of insolvency. For these reasons working capital management should be given proper consideration and will ultimately affect the profitability of the firm.

Determinants of working capital: There are no specific set of rules or formulae to determine the working capital requirements of firms. A large number of factors, each having a different importance influences working capital needs of firms. The following is the description of factors which generally influence the working capital requirements of firms (Adeniji, 2008).

- **Nature of business:** Working capital requirements of a firm are basically influenced by the nature of the business. In practice, trading and financial firms have a very small investment in fixed assets but require a large sum of money to be invested in working capital. In contrast, public utilities have a very limited need for working capital and have to invest abundantly in fixed assets
- **Sales and demand conditions:** There is a relationship between volume of sales and the working capital needs of an organization. However, it is difficult to precisely determine the relationship between volume of sales and working capital needs. In practice, current assets will have to be employed before growth takes place. It is therefore, necessary to make advance planning of working capital for a growing firm on a continuous basis
- **Technology and manufacturing police:** The production process has a lot of impact on the working capital requirement. The manufacturing cycle comprises of the purchase and the use of raw materials and the production of finished goods. The longer the manufacturing cycle, the larger will be the firm's working capital requirements
- **Credit policy of the firm:** The credit policy of the firm affects the working capital by influencing the level of debtors. The credit terms to be granted to the customers may depend upon the norm of the industry to which the firm belongs. But a firm has the flexibility of shaping its credit policy within the constant of industry norms and practices

- **Operating efficiency:** This relates to the optimum utilization of resources at minimum costs. The firm will be effectively contributing in keeping the working capital investment at a lower level if it is efficient in controlling operating costs and utilizing current assets
- **Price level changes:** Price is relevant to purchase of material, packaging of finished goods and eventual sales. The increasing shifts in price level make functions of financial managers difficult. Management should anticipate the effects of price level changes on working capital requirements of the firm. Generally, rising price level will require a firm to maintain higher amount of working capital. Same levels of current assets will need increased investment when prices are increasing
- **Credit granted by suppliers:** The working capital requirements of a firm are also affected by credit terms granted by its creditors. A firm will need less working capital if liberal credit terms are available to it. Similarly, the availability of credit from banks also influences the working capital needs of the firm. A firm which can get bank credit easily on favourable conditions will operate with less working capital than a firm without such facility

Need for investment in working capital: According to Pandey (2003), working capital is required to finance the day-to-day activities of a firm and provide for growth. The need for working capital in a business organization cannot be overemphasized. There are hardly any business organizations that do not require any amount of working capital. However, firms differ in their requirement of working capital. When a company grows and its output increases, the volume of its working capital or net current assets will also increase. The volume of net current assets will also depend on the policies adopted by a company for managing individual current assets. A company with no stock, no debtors and no creditors will have little or no investment in working capital which will result in little or no profit.

Where a firm is experiencing growth or significant seasonal fluctuations, working capital must be available to finance the necessary inventory and bills payable. A high level of current assets, especially cash strengthens the firms' liquidity position and reduces risk. The liquidity will facilitate the following:

- Purchase of raw materials
- Payment of expenses incurred
- Paying creditors
- Payment of dividend to existing shareholders
- Payment of tax to the government for the provision of social amenities
- Payment for fixed assets, etc.

With adequate working capital, there can be no occurrence of expansion without the firm being able to meet its commitments. This will result in overtrading which is a case of holding too little working capital and overstretching investments beyond the firm's capacity.

Moreover, there could be production disruption; due to there being inadequate raw materials or stock of work-in-progress, low sales resulting from insufficient cash to advertise and goodwill may be impaired. For example, in the absence of stock of finished goods to meet customers demand. All these could happen when there is inadequate working capital and it will have an adverse effect on the company's profitability.

We can therefore now see how important working capital is to any business organization and why it is necessary to manage it efficiently.

Dangers of excess working capital: The dangers of excess working capital to a business are as follows:

- It results in unnecessary accumulation of inventories. Thus, chances of inventory mishandling, waste, theft and losses increase
- It is an indication of defective credit policy and slack collection period. Consequently, higher incidence of bad debts results, which adversely affects profit
- Excessive working capital makes management complacent which degenerates into managerial inefficiency
- Tendencies of accumulating inventories tend to make dividend policy liberal and difficult to cope with in future when the firm is unable to make speculative profits

Dangers of insufficient working capital: Firms with insufficient working capital suffer a great disadvantage. Some researchers stressed that such firms are in financial 'straight jacket' as their operations are hindered and their growth is stunted by lack of funds to finance extra stock and creditors. The weakness of such firms is also demonstrated by their dependence on short-term sources of funds to finance their operation. Sometimes, this great dependence extends into the funds of the providers, who then begin to dictate the policy of business and in extreme cases may bring profitable operation to a halt by calling a creditors meeting and appropriating a liquidator.

Hence, a business must have adequate funds to finance the continuity of its operations. The following will be the effects on the company operating with insufficient working capital:

- **Stagnant growth:** It becomes difficult for the company to take advantage of new opportunities or develop new products or adapt to alteration of production techniques needed when new opportunities arise
- **Loss of credit opportunity:** The inadequacy of working capital funds make firms unable to secure attractive credit opportunities. A company with working capital need not seek for credit opportunities because the firm will be able to finance large stock and can therefore place large orders
- **Loss of cash discount:** Companies try to persuade their debtors to pay early by offering them a cash discount off the actual price. A company with inadequate working capital funds will not be able to enjoy this benefit
- **Loss of good will:** A company with good reputation can expect cooperation from the trade creditors at the time of financial difficulties. A firm will lose its reputation when it is not in position to honor its short-term obligations. As a result, the firm faces tight credit terms
- **Organizational control by creditors**: If the working capital of a business is grossly inadequate, it will be forced to finance its operations mere by short-term borrowing. Eventually, a point will be reached beyond which lenders are not willing to extend additional credit and this may jeopardize the existence of business as it depends on the actions of the creditors. It can also call for the liquidation of the company, even though the business is profitable

Small and medium scale enterprises: There is no generally accepted definition of a small business because the classification of businesses into large-scale or small-scale is a subjective and qualitative judgment. In countries such as the USA, Britain and Canada, small-scale business is defined in terms of annual turnover and the number of paid employees. In Britain, small-scale business is defined as that industry with an annual turnover of 2 million pounds or less with fewer than 200 paid employees.

In Nigeria, there is no clear-cut definition that distinguishes a purely small-scale enterprise from a medium-scale enterprise. The Central Bank of Nigeria, in its Monetary Policy circular No. 22 of 1988, defined small-scale enterprises as having an annual turnover not exceeding 500,000 naira. In the 1990 budget, the federal government of Nigeria defined small-scale enterprises for purposes of commercial bank loans as those with an annual turnover that does not exceed 500,000 naira and for Merchant Bank Loans, those enterprises with capital investments not exceeding 2 million naira (excluding cost of land) or a maximum of 5 million naira. The National Economic Reconstruction fund (NERFUND) put the ceiling for small-scale industries at 10 million naira. Section 37 b(2) of the companies and Allied Matters Act of 1990 defines a small company as one with:

- An annual turnover of not more than 2 million naira
- Net asset value of not more than 1 million naira

For the purposes of this study, small and medium-scale enterprises are defined as those with investments in machinery and equipment not exceeding 500,000 naira and 2 million naira, respectively and with not more than 50 and 100 paid employees, respectively.

EXPERIMENTAL METHODS

Data for this study were generated from secondary sources (annual reports and accounts of thirty small and medium scale companies that were not quoted on the Nigeria stock exchange for the 2009 financial year). Multiply regression analysis was then use to analyze the data. The data are presented in the Table 1 while the model and the result together with the interpretation are presented below:

$$WC = f\,(NPM, GPM, ROCE)$$

Where:

WC = Working capital.
NPM = Net profit margin
GPM = Gross profit margin
ROCE = Return on capital employed

Specifying it in econometric form, we have;

$$WC = a_0 + a_1\,NPM + a_2\,GPM + a_2\,ROCE + \mu$$

Where:

a_0 = Intercept
a_1 = Impact of net profit margin
a_2 = Impact of gross profit margin
a_3 = Impact of return on capital employed
μ = Errors

Table 1: Computed financial summary of the SME's for the year 2009

Name of company	Working capital (WC)	Net profit margin (NPM)%	Gross profit margin (GPM)%	Return on capital employed (ROCE)%
A Johnson and sons Nig. Ltd.	30,166,280	5.58	8.32	22.14
Bakers Delight	4,180,939	25.02	53.17	38.59
Concord Hotels	4,313,020	16.60	22.70	8.68
Dansarki Farms	17,797,216	8.43	50.17	6.46
Doma Industries	12,815,939	7.94	30.98	5.04
Egumark Industries	44,815,240	5.97	8.76	21.76
Emmanuel and Sons Nig. Ltd.	3,097,915	19.11	41.98	5.65
Gokra Farms, Kuje	27,393,292	13.55	50.17	11.33
Keemah Business Centre	3,013,549	14.36	24.19	15.87
Keemah Integrated Farms	13,927,117	15.75	50.37	24.72
Mojifet Industries Ltd.	19,217,995	2.00	3.07	2.71
Oasis Baker	47,719,632	82.17	118.6	18.36
Osas and Oseji Transport	20,347,168	31.14	65.42	35.03
Royal Raymond Hotel	732,500	5.62	81.36	3.36
Sapphire Hotels	24,878,779	4.53	24.12	15.77
Segeto Ventures	12,464,252	15.31	14.21	5.22
Songhai Pharmacy	49,780,176	9.90	40.00	6.35
Thomas Gold Integrated Resources	3,685,616	0.35	21.09	0.75
Tonia Pharmacy, Maitama Abuja	18,735,812	12.54	35.06	13.59
Top Link Nig. Ltd.	880,000	2.67	80.71	1.36

Source: Annual Reports and Account of the various companies for 2009

All the summary statistics obtained from the OLS regression show clearly that the result was not good, as such, to obtain a better result and to correct the errors of auto-correlation detected in the OLS result, the regression was re-run using the Cochrane-Orcutt technique and the result obtained is presented below:

- WC = 2.98 + 1029395 NPM – 232579.9 GPM – 1380103 ROCE
- T=Ratio = (6.67) (7.33) (-2.89) (-5.50)
- R^2 = 0.94923, R-bar^2 = 0.83500
- F-Stat. F (9, 4) = 8.3099
- D.W. Stat. = 2.02

RESULT AND DISCUSION

The t-ratios here reveal that all the independent variables are statistically significant in explaining variation in the dependent variables. R^2 (0.94923) shows that 94.92% of variation in the dependent variable is explained by the variation in the independent variables. F-Statistics of F (9.4) = 8.3099 is greater than F-critical value of 6.00 (at 5%) level of significance.

This shows that the explanatory variables collectively are significant in determining the systemic change in the dependent variable.

D.W. statistic of 2.02 revels that the auto-correlation that was detected in the OLS regression result has been corrected. The result obtained shows that holding all the independent variables constant by 2.98 unit. Also, a unit increase in Net Profit Margin (NPM) holding other variables constant will increase working capital by 174804.4 unit which confirmed that there is a positive relationship between working capital and unit profit margin.

Similarly, a unit increase in Goss Profit Margin (GPM) holding other variable constant will reduce WC by 232579.9 units. This shows that there is a negative relationship between working capital and net profit margin. And finally, unit increase in Return on Capital Employed (ROCE) holding other variables constant will reduce WC by 1380103 units which means there is a negative relationship between return on capital employed and working capital.

So by this result, Net Profit Margin (NPM), Gross Profit Margin (GPM) and Return On Capital Employed (ROCE) are all both individually and collectively significant in determining the Working Capital (WC) of a business organization or firm. Thus, how much the managers of a business will be willing to put as working capital depends to a large extent on the Net Profit Margin (NPM) it will make, the Gross Profit Margin (GPM) and the Return On Capital employed (ROCE). But most importantly is the Net Profit Margin (NPM). This is so because the NPM as shown by its T-Ratio is the most statistically significant variable and it has been established that the ultimate objective of all business organization is "profit maximization".

The objectives of this study among other things were to determine the impact of working capital on the profitability of SME's. From the analysis carried out in this study, we can summarize our findings thus:

- Working capital has a positive relationship with the Net Profit Margin of the organization. This implies that for organizations to improve in their profitability, they should have appropriate working capital management
- Working capital has a negative relationship with the Gross Profit Margin of the organizations
- Working capital has a negative relationship with the Return on Capital employed of the organizations

There is need for organizations to maintain adequate working capital. This is not just to meet the daily operations of the organizations but also to enhance the various performances of the organization. In this research we have been able to establish the fact that working capital can be positively correlated with net profitability and negatively correlated with the gross profitability and return on capital employed of the organization. The time has come when managers or owners of the SME's should not only look at various sections and parts of the organization as it concern them but rather look at a determining factor which is working capital that can generate a positive or negative effect on that segment of the organization.

Conclusively, all managers/owners must look beyond the financial statement of their working capital policy because it will go a long way in determining the overall profitability, efficiency and survival of the organizations.

RECOMMENDATIONS

From the findings of this research, the following recommendations are made;

- Regulatory agencies of the organizations (e.g., SMEDAN) should state penalties for the organizations with negative working capital at the end of their financial year
- Management of organizations should ensure the development of adequate and efficient working capital policy for the organizations
- Auditors should be mandated to make comments in their audit reports where organizations have negative working capital

- The statement of working capital policy should be made a major requirement in the annual reports prepared by organizations
- Regulatory agencies in the various sectors should come out with a minimum acceptable bench mark on working capital just like the minimum capital base in the banking sector

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