

## The Impact of Working Capital Management on Profitability: Evidence from Selected Small Businesses in Nigeria

Dr. Johnson Abiodun Oladimeji<sup>1</sup> & Dr. Olufemi Aladejebi<sup>2</sup>

### Abstract

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Working Capital Management (WCM) plays a major role in ensuring the continuous operation of small businesses. This research paper examines the impact of working capital management on the profitability of SMEs in Nigeria. The quantitative research method was adopted using relevant secondary data from annual financial reports of selected SMEs. Regression analysis was used to determine if the working capital (WC) variables were a significant predictor of the SMEs' profitability. The finding shows that for the period 2014 – 2018, there is no relationship between WCM and SME's profitability. The study recommends that Government policy should be geared towards enhancing the growth of SMEs and that SMEs should adopt prudent WC policies and strategic measures aimed at improving WC structure and, ultimately, the profitability of the SMEs in Nigeria.

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**Keywords:** Working capital management, Cash Conversion Cycle Theory, Return on assets, Small business.

### Introduction

Working capital management (WCM) is among the essential aspect of the financial management of a business (Uguru, Chukwu, & Elom, 2018). WCM is an important and sensitive issue of financial management that requires careful consideration in all companies, regardless of their nature (Dinku, 2013). Irrespective of their size and nature of the business, every organization, whether profit-oriented or not, needs a certain amount of working capital and management. It is an important factor for maintaining liquidity, survival, solvency, and profitability of the business (Atta, Javed, Khalil, Ahmad, & Nadeem, 2017). Working Capital Administration is one of the significant parts of the financial management of many firms. It deals with the choice of the composition of current assets and current liabilities in a business (Mansoori and Muhammad, 2012). In Africa, the potential of SMEs has not yet been fully tapped. In sub-Saharan Africa, SMEs are critical drivers of growth across the economies, accounting for almost 90% of the businesses in these markets (Biggs & Shah, 2006). Windaus (2014), states that working capital gives a clear indication of how well a company is managed as it is a reliable indicator of proper management.

WCM considers every decision that relates to managing current assets and liabilities, i.e., determining the optimal amount of cash, receivables, inventory, and current liabilities and the relationship between current assets and current liabilities (Abuzayed, 2012). Working capital refers to funds to be invested in the business for a short period, generally one year. It is a measure of a company's efficiency and short term financial health. It shows whether a company has short-term assets to cover its short-term debt. It is required to meet day to day operating expenses and for holding stocks of raw materials, spare parts, consumables, work in progress, finished goods, and overdrafts. It is vital to the operating cycle of a firm (Rawat & Dave, 2017). The amount of working capital needed by a company is a times dependent on the industry it operates, the credit days allowed by creditors and credit days given to debtors, and the level of stock they need to maintain (Kosgey & Njiru, 2016). Firms must monitor their working capital to ensure that they have enough resources to continue their day to day operations (Runyora, 2012). SME must monitor their working capital levels as it has a direct impact on the financial performance of their business (Owele, 2014).

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<sup>1</sup> Department of Finance, University of Lagos, Akoka Lagos Nigeria Email: [jaoladimeji@yahoo.com](mailto:jaoladimeji@yahoo.com)

<sup>2</sup> University of Lagos Business School, Akoka Lagos Nigeria. E-mail: [aladejebi2000@yahoo.com](mailto:aladejebi2000@yahoo.com)

WCM is an area of interest that has been widely covered by academia to postulate a firm's profitability (Mbawuni, Mbawuni, & Nimako, 2016). Most empirical studies on WCM are based on large firms in developed economies (Tauringana & Afrifa, 2013). Some studies have emphasized that working capital represents an integral part of the firm's performance (Banos-Caballero, Garcia-Terel, & Martinez-Solano, 2014; Tauringana and Afrifa, 2013).

The flow of funds is vital to maintain business just as blood circulation is necessary for the human body to preserve life (Korede, 2017). Working Capital is considered as the lifeblood of business and signifies the funds required for the day to day running of a firm (Abosedo & Lugman, 2014, Umara, Sabeen, & Qaisar, 2009).

### **Statement of the Problem**

Effective working capital management is critical and fundamental to any business. Many SMEs have collapsed as a result of improper management of working capital. Poor working capital management has been cited as the major cause of SME business failures (Kosgey & Njiru). Decision making about the investment in and financing of current assets and their components is frequent, repetitive, lengthy, and also very time-consuming for company managers (Koralun-Bereznicka, 2014). Most SMEs do not engage their working capital in such a way as to enjoy maximum profit (Abimbola & Kolawole, 2017). According to Windaus (2014), only 9% of companies around the world manage to improve working capital consistently over multiple years. The main goal of WCM is to guarantee the maintenance of an acceptable level of working capital in a way that will not lead to excessive or inadequate working capital (Filbeck & Krueger, 2005). One of the serious challenges faced by most financial managers is how to effectively and efficiently manage working capital to maximize their profits (Abimbola & Kolawole, 2017).

According to (Padachi, 2006), WCM is vital for the financial health of all businesses, irrespective of type and size. The greater part of SMEs does not have long-term assets like Land & Building, Vehicles, Office Equipments. As a result, the proportion of current resources over total aggregate assets is very high as the majority of the assets comprise of stock, cash balances, and account receivable (Gorondutse, Ali & Abubakar Naalah, 2018). Firms' performance is affected by the way their working capital is being managed (Usama, 2012). Gul, Khan, Raheman, Khan, Khan, & Khan (2013) reported a negative relationship between working capital management and the performance of SMEs in Pakistan. Also, Napompech (2012) and Konak and Guner (2016) had a similar result in Thailand, Spain & Istanbul. Empirical Reviews: Gorondutse, Ali, Abubakar & Maahtah (2017), in a research carried out in Malaysia on the effect of WCM on SME profitability, concluded there is a positive effect of cash conversion cycle on net operating profit.

Therefore, the inconsistencies in research findings on working capital management and profitability of SMEs are inconclusive. The study focused on the impact of working capital management on the profitability of some selected SMEs in Nigeria for 2014-2018. Financial statements of these selected SMEs were used as the main source of data.

### **Objectives of the Study**

The main objective of the study is to explore the effect of working capital management on the profitability of selected SMEs in Lagos metropolis.

### **Literature Review**

#### **Theoretical Framework**

##### **Cash Conversion Cycle Theory**

The Cash Conversion Cycle (CCC) theory was introduced by Richards and Laughlin (1980). They examined working capital management and its components. Cash conversion cycle theory is the most central theory in explaining working capital management as it is concerned with all the concepts, and components, starting from raw materials to finished products and outputs representing inventory levels, to receivables and payment representing the cash portion (Korede, 2017). Richards and Laughlin (1980) concluded that a large part of a finance manager's time is used on decision making on short term assets and liabilities. Inventories, receivables, and payables are regarded as the constituents of the cash conversion cycle model (Korede, 2017). The Cash Conversion Cycle (CCC) theory is relevant, especially during the period of financial constraints (Belghitar & Khan, 2013).

Also, for firms with significant growth opportunities (Campello, Giambona, Graham, & Harvey, 2011). CCC management is also relevant for use by SMEs and firms in emerging markets that are confronted with borrowing constraints (Campello, Giambona, Graham, & Harvey, 2011). CCC theory is valuable to both public and private firms (Anagnostopoulou, 2012).

The CCC is used as a comprehensive measure of working capital as it shows the time lag between expenditure for the purchase of raw materials and the collection of sales of finished goods (Padachi, 2006). The cash conversion cycle (CCC) is calculated by adding inventory days and trade receivable days and subtracting trade payable days (Korede, 2017). According to Arnold (2008), the shorter the CCC, the smaller are the resources that a firm needs. So the longer the cycle, the higher the investment needed for the working capital.

### **Importance of SMEs**

SMEs are a dynamic and evolving population. The composition of SMEs varies across countries and sectors, with implications for their ability to thrive in and contribute to an open and digitalized economy. In all countries, micro-enterprises (up to 9 employees) are the majority in the business landscape, accounting for 70% to 95% of all firms. Hence, SMEs play a key role in national economies around the world. SMEs are the predominant form of enterprise in OECD areas, making up approximately 99% of all the firms. SMEs are the major provider of employment, accountable for about 70% of employment on average, and are major responsible for value creation, generating between 50% and 60% of value-added on average (OECD, 2016). In up and coming economies, small and medium enterprises account for up to 45% of aggregate employment and 33% of gross domestic product. Considering the contribution of informal businesses, SMEs contribute to more than 50 percent of employment and GDP in many countries irrespective of income levels (IFC, 2010).

The contribution of SMEs to innovation has improved in recent decades, as income growth, changing technologies, and more niche market demand have made SMEs reduce their structural deficiencies as a result of resource constraints and limited ability to reap economies of scale and improve their comparative advantages. SMEs generate employment avenues across geographic areas and sectors, employing a broad spectrum of the labour force, inclusive of low-skilled workers, and providing opportunities for the development of skills. They also assist their employees in getting access to social and health care services. SMEs that generate jobs and value-added are, therefore, an important channel for inclusion and poverty reduction, especially but not exclusively in emerging and low-income economies. In this regard, upgrading productivity in a large population of small businesses, including in traditional segments and the informal economy, can help governments achieve both economic growth and social inclusion objectives, including escaping from low productivity traps and improving the quality of jobs for low-skilled workers (OECD, 2017)

SMEs play an important role in broader eco-system of companies, start-ups and young firms, which are generally small or micro firms, are the primary source of net job creation in many countries. None the less, major cross-country differences are observed in the contribution of micro-enterprises to employment and value-added. For instance, in the services sector, their share in employment ranges from more than 60% in Greece to 20% in Denmark and Germany, while their share in value-added ranges from about 45% in Luxembourg to 15% in Switzerland (OECD, 2016).

Better participation by SMEs in international markets can assist them in strengthening their contributions to economic development and social well-being by creating opportunities to scale up, accelerating innovation, facilitating spill-overs of technology and managerial know-how, broadening and deepening the skill-set and enhancing productivity. Besides, greater flexibility and capacity to customize and differentiate products can give SMEs a competitive advantage in international markets compared to larger firms, as they can respond faster to changing market conditions and increasingly shorter product life cycles. SMEs dominate some niche international markets, and innovative small enterprises are often key partners of larger multinationals in developing new products or serving new markets. At the same time, closer global integration increases competition for SMEs in local markets, in some cases with disruptive effects, demanding enhanced market knowledge and increased competitiveness also for small businesses that do not operate internationally.

### Concept of Working Capital Management

Working Capital affects both profit and nonprofit making organizations (Sadiq, 2017). According to Mukhopadhyal (2004), working capital is the most crucial factor for maintaining liquidity, survival, solvency, and profitability of businesses across any country. The importance of working capital management as an essential component of financial management originates from the fact that investment in current assets constitutes a significant part of the total investment of a business enterprise. Working capital management comprises the management of current assets and current liabilities, and good working capital management ensures a satisfactory level of working capital at all times (Kumari & Anthuvan, 2017). Working capital is the flow of available funds necessary for the working of a business. It consists of funds invested in current assets, which in the ordinary course of business can be turned into cash within a short period without diminishing in value and without disruption of the organization (Mohanty, 2013). It is an important element in any organizational setting that requires serious attention, proper planning, and management (Owolabi & Alu, 2012).

Working Capital (WC) is current assets less current liabilities. It can be positive, negative, or nil (on rare occasions). Current assets consist of inventories, receivables, prepayments, and cash, while current liabilities include short term payables, short term debts, and accruals (Kosegey & Njiru, 2016). Working capital can be conceptualized as either Gross working capital or net working capital. The Gross working capital is described as the total value of current assets, while Net working capital is seen as the difference between current assets and current liabilities. Current assets include accounts receivable, inventory, prepayments, Bank, and cash balances. Current liabilities include accounts payable, overdrafts, Accruals and other short term obligations (Sathyamoorthi, Mapharing, & Selinke, 2018).

According to Garcia-Teruel & Martinez-Solano (2007), a firm can manage WC by adopting either of two strategies (1) aggressive strategy (2) conservative strategy. The aggressive approach leads to lower investment in working capital, while the conservative strategy is meant to increase investment in working capital (Tauringana & Afrifa, 2013). The management of working capital will affect the liquidity and profitability of a company.

Meanwhile, liquidity and profitability goals are contradictory to each other in most decisions that the officer in charge of takes (Niresh, 2012). An Optimal working capital management is arrived at through a trade-off between profitability and liquidity (Bellouma, 2011). Working Capital Management (WCM) is the management of a company's short term assets and short term liabilities (Deloof, 2003). Mandu (2014) observed that effective WCM helps a company in terms of profitability and solvency. Solvency means the capability of a firm to fulfill its obligations to lenders and creditors as they fall due (Kiprotich, 2013). Investment in current assets is essential to ensure timely delivery of goods and services to firms' customers. It underscores the fact that effective management will result in a favorable impact on profitability (Rehman, Khan, Muhammed, Iqbal & Khan, 2016).

According to Pandey (2015), the major determinants of working capital include the nature of the business, price level changes, credit policy, operating efficiency, availability of credit from suppliers, market and demand conditions technology, and Manufacturing policy. For small businesses and startups, working capital is required to finance operations for the business to run smoothly (Rawat & Dave, 2017).

The operating cycle in working capital consists of four major events starting from the purchase of raw material, payment for raw material, sale of finished goods, and finally, collection of cash from credit sales (Rawat & Dave, 2017). According to Paramasivan & Subramanian (2009), two factors generally influence the working capital of firms. These are internal and external factors. The internal factors include credit policy, growth and expansion of business, nature of the business, firm's product policy, and size of the business, while external factors include: changes in the technology, infrastructural amenities, business fluctuations, import policy, and taxation policy.

According to Korede (2017), a company should have working capital policies on the management of inventory, trade receivables, cash, and short-term investments to minimize the possibility of illiquidity and inefficiency. These policies should also take into consideration the nature of business as different businesses have different working capital requirements. The efficient utilization of the firm's working capital has a linear relationship with the profitability of that firm. So, effective and efficient working capital management is expected as it has a significant effect on the profitability and sustainability of firms (Agha & Mba 2014). Working capital management is the process of planning for the acquisition and usage of short term assets (Ismail, Mohammed & Mohammed, 2015). Working capital management (WCM) is an important component of corporate financial management as a result of a strong connection with the liquidity, profitability, and solvency objectives of a firm (Kolapo, Oke, & Ajayi, 2015).

Nwankwo & Osho (2010) opined that efficient WCM is a continuous process that entails several day-to-day operations and decisions that determine the firm's level of investment in each type of current assets. The level of short term and long term debts the organization will use to finance its assets. The success of a corporate entity depends on its ability to overcome the conflict that arises between liquidity and profitability (Kolapo, Oke, & Ajayi, 2015). By managing their working capital, firms can shorten their operating and cash cycles and eventually increase their profitability (Hien, Abbott, & Jin-Yap, 2017). The shorter the firms operating and cash cycles, the more likely they are firms to generate profits (Hien, Abbott, & Jin-Yap, 2017).

### **Impact of Working Capital Management on SMEs**

Firms that manage their working capital effectively and efficiently will have profitability (Hirnisssa, & Zariyawati, 2017). SMEs rely seriously on WCM as a result of limited financial resources compared to large firms (Tauringana & Afrifa, 2013). Also, effective management of working capital is important to SMEs than to larger firms (Gorondutse, Ali & Abubakar Naalah, 2018). Efficient WCM translates into superior performance because it allows firms to redeploy unutilized corporate resources to high-value use. Working Capital Management plays a major role in enhancing the operational efficiency of firms and their ultimate profitability (Kasozi, 2017). Working Capital Management has a significant effect on a company's liquidity and profitability (Afrifa, 2015) and, ultimately, the worth of a company (Kieschnick, Laplante & Moussawi, 2013; Banos-Caballero, Garcia-Teruel & Martinez-Solano, 2014). A firm may adopt either an aggressive or conservative working capital by reducing or increasing the level of investment in working capital (Tauringana & Afrifa, 2013 & Afza & Nazir, 2011). The conservative approach is a strategy that keeps a large amount of capital in current assets as compared to the fixed-assets; thus, it will increase investment in working capital (Mohamad, Rahaman, & Saad, 2017). An increase in working capital may result in the opportunity cost of cash tied-up in the unproductive assets such as inventory and accounts receivable (Tauringana & Afrifa, 2013). This will result in lower profitability because of lower risk (Nwankwo & Osho, 2010). While firms adopting the aggressive approach will gain higher profitability that results from a higher risk and lower working capital (Nwankwo & Osho, 2010). This approach would positively affect the profitability of the firm by reducing the proportion of its total assets in the form of net current assets (Garcia-Teruel & Martinez-solano, 2007). It has been established through research that working capital management is an essential part of a firm and that it has a positive association with a firm's profitability (Rehman, Khan, Muhammed, Iqbal & Khan, 2016). Radasanu (2015) explains that working capital management is closely related to sustainable growth. An effective WCM helps firms maintain the liquidity that enables them to have sufficient cashflows to repay mature short-term liabilities and to acquire a lower cost of capital (Barine, 2012). The neglect of WCM may lead to failure and bankruptcy of firms (Sadiq, 2017; Snober, 2014). Padachi (2006) noted that efficient management of working capital is most important to the survival, growth, and profitability of SME firms.

### **Empirical Reviews**

Yazdanfar and Ohman (2014) examined the impact of working capital management on firm profitability by using a sample of 13,797 SMEs operating in four industries from Swedish data and found that working capital management has a negative relationship with firm's profitability. Tauringana & Afrifa (2013) studied the relative importance of WCM among 133 SMEs in the UK for the period 2005 to 2009. Using panel data regression analysis of a sample of 133 firms, their results show that the management of average days payables (ADP) and average days – receivable (ADR) is important for SMEs' profitability. The relationship between average days inventory (ADI) and return on assets (ROA) was negative but not significant. ADR was negatively related to profitability significantly, and that ADP is negatively associated with profitability. They suggest that SMEs need to concentrate their limited resources on managing average receivables (AR) and average payables (AP) to be more profitable. Tauringana and Afrifa (2013) found a significant positive effect of the components of working capital management on SMEs' profitability in the United Kingdom. Pais and Gama (2015) and Banos- Caballero, García- Teruel, & Martínez- Solano (2010) reported that working capital management has a positive link with SMEs' profitability in Portugal and Spain, respectively.

Afeef (2011), the study found that working capital management has a bigger effect on the financial performance of small enterprises than it does on big enterprises because a large part of small enterprises asset is short-term. Most of the total debt is short-term debt. The sample includes 40 SMEs listed on the Karachi stock exchange in the period of 6 years from 2003 to 2008. The findings also revealed that working capital management is important to the financial performance of SMEs.

Padechi (2006) researched 58 small manufacturing Mauritian Firms covering 1998-2003 using panel data analysis and regression analysis. The dependent variable, return on assets was used as capital management and corporate profitability. The study showed that the paper and printing industry had best practices due to the efficient management of components of working capital and its positive impacts on profitability.

The result of a research conducted by Sadiq (2017) titled *Impact of Working Capital Management on Small and Enterprises Performance in Nigeria among 28 SME firms using the data from 2010 to 2014 in Osun state Nigeria* using the panel data regression indicated that ARP and ITID has a negative effect on performance, while positive relationship is found in APP, CCC, and NTC to performance. Also, firm sizes, growth in sales, profitability, and earning all affect the performance of SME firms.

Falope and Ajilore (2009) gave empirical evidence on the effects of WCM on profitability performance for fifty Nigerian quoted non-financial organizations for the period 1996-2005. The study used panel data econometrics in a pooled regression. The study found a significant negative relationship between net operating profitability and the average payment period and cash conversion cycle. They also found no significant differences in the effects of working capital management between large and small firms.

In a research carried out in Oyo state Nigeria, titled: *Effect of working capital management practices on the Performance of SMEs*, by Abimbola & Kolawole (2017) among 150 SME operators using multiple regression analysis and Spearman Rank correlation coefficient, the result of the study showed positive relationship between SMEs performance and cash management practices. Also, inventory management practices had a significant effect on SMEs' performance.

Sen & Oruc (2009) used data from 49 firms from Turkey to analyze the relationship between WCM and firm performance. The study confirmed a negative correlation between the cash conversion cycle and working capital both at the firm and industry level. Uremadu, Egbide & Enyi (2012) showed an empirical evidence of the effect of working capital management and liquidity on corporate profits using a cross-sectional time-series data for the period 2005-2006 using descriptive statistics and OLS methodology, and they found positive effect of debtors' collection period, inventory conversion period, creditors' payment period on corporate profitability measured by return on assets. Fasesin, Ayo-oyebiyi, and Folajin (2017) examine the influence of WCM practices on small scale enterprise performance in Osun state. Using a purposive sampling technique, a sample of 100 small businesses from Osogbo, Ife, Iwo, Ilesa, and Ede. A structured questionnaire and oral interview were used to collect data. Both descriptive and inferential statistics were employed to analyse the collected. Findings revealed that cash management practices and trade credit management practices have an insignificant positive influence on the performance of a small business, while inventory management practices have an insignificant inverse relationship on small business performance. The study thus concludes that working capital management practices are weak predictors of small business performance in Osun state, Nigeria.

In a study carried out by Uguru, Chukwu & Elom (2018) titled *Effect of working capital management on the profitability of Brewery firms in Nigeria*, using the sample of Nigerian Breweries Plc and Guinness Nigeria Plc from 2006 to 2014. The study was used the ex-post facto research design and employed the ordinary least square (OLS) regression technique in analyzing the data. The findings reveal that the management of the number of days accounts receivables are outstanding, while a number of days inventory is held and cash conversion cycle are significant factors in the accomplishment of the profitability objective of brewery firms in Nigeria. It was recommended that brewery firms should reduce serious investments in current assets to avoid high inventory costs, and excess cash holdings and account receivables.

Kolapo, Oke & Ajayi (2015) evaluated the effect of WCM on corporate performance of selected firms in Nigeria from 2001-2010 using two models: Return on Assets (ROA) and Gross Working Capital (GWC). A panel data approach was used. Findings show that WCM has the predictive ability on both ROA and GWC. The study indicates that WCM significantly and positively impacts firm performance through its effect on profitability, which represents a standard criterion to appraise the performance of a firm.

In a study carried out by Akindele & Odusina (2015) titled *working capital management and firm profitability: Evidence from Nigerian Quoted Companies*, they examined the relationship between working capital management and firms' profitability of twenty-five companies for the seven-year period 2005-2011.

Data used in the study were taken from audited financial statements of the firms. Multiple regression analysis was used to analyze the data, and results showed a negative relationship between working capital management and firm profitability.

Nwaobia, Kajola & Adedeji (2012) examined the impact of WCM in firms' financial performance of 30 Nigerian listed manufacturing firms for a period of 7years (2004-2010). The results revealed a negative relationship between WCM and the Firm's financial performance.

Bhumia & Das (2012) examined the relationship between the WCM and profitability of Indian private sector small-medium companies. WCM and profitability indicators over the period from 2003 to 2010 were moulded as linear regression analysis. The study showed a small relationship between WCM, including the working capital cycle and profitability. Also, the multiple regression test confirmed a lower degree of association between WCM and Profitability.

Aeunkumar and Ramanan (2013) analyzed the impact of WCM on the financial performance of manufacturing enterprises in India. The sample was taken from 1,198 firms with a period of 5years, from 2005-2006 to 2009-2010. The result showed that financial performance would be improved with a quicker cash conversion cycle. The study also emphasized that firms tend to extend their inventory conversion period (ICP) and account payables conversion period (APP), and shorten its conversion cycle for short term assets to enhance its business performance.

Working Capital Management (WCM) is the current assets and current liabilities of a firm. The basic objective of WCM is to manage the firm's current assets and current liabilities in such a way that a satisfactory level of WC is maintained i.e., it is neither inadequate nor excessive.

### Conceptual Framework

Working Capital Management (WCM) a vital variable of the study is used as a vector of Account Collection Period (ACP) Inventory Conversion Period (ICP), Average Payment Period (APP), Cash Conversion Cycle (CCC), Debt Ratio (DR), Current Ratio (CR), and Quick Ratio (QR). Effective management of these variables is expected to enhance SME's profitability. Return on Assets (ROA) is a measure of SMEs' profitability deriving from the effective management of working capital a way that a satisfactory level of working capital is maintained i.e., it is neither inadequate nor excessive.

Based on the review of relevant literature and a priori expectations of this study, a noticeable trend can be assumed regarding the consistency of the relationship between WCM and SME's profitability. This study, therefore, conceptualizes a framework of interconnectivity between the study variables as depicted in figure1 to establish a relationship between WCM and profitability of SMEs in Nigeria.

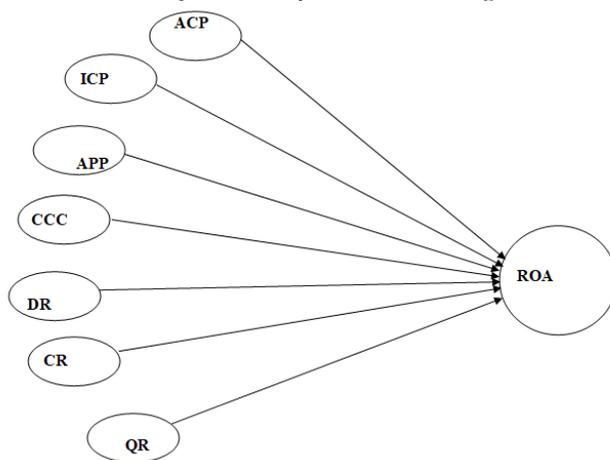


Figure 1. Conceptual framework

### Methodology

Methodology: Quantitative research method was adopted for this paper, and secondary data was used extracted from annual financial reports of some SMEs.

The data consists of account receivables, inventories account payables, total debt, total equity, total current assets, total current liabilities, total assets, revenue, profit before tax, and profit after tax. The financial statements of these firms used for the data were for the period 2014-2018.

**Model Specification**

The model designed to examine the impact of working capital management on the profitability of solicited SMEs in Nigeria are as stated below:

$$ROA = f(ACP, ICP, APP, CCC, DR, CR, QR) \dots \dots \dots (1)$$

In a specific form, equation (1) above translates to equation (2) thus:

$$ROA = \beta_0 + \beta_1 ACP + \beta_2 ICP + \beta_3 APP + \beta_4 CCC + \beta_5 DR + \beta_6 CR + \beta_7 QR + \mu \dots \dots \dots (2)$$

Return on Asset (ROA) is the dependent variable, which is a measure of SME's profitability owing to the effective management of working capital (WC) while ACP, ICP, APP, CCC, DR, CR, and QR are the independent variables.

**Data Analysis**

The financial statements of 30 SMEs for the financial years 2014 to 2018 (five years) were analysed. The dependent variable was Return on Assets (ROA) while the independent variables/ predictors were Account Collection Period (ACP), Inventory Conversion Period (ICP), Average Payment Period (APP), Cash Conversion Cycle (CCC), Debt Ratio (DR), Current Ratio (CR) and Quick Ratio (QR). Figures for these variables were calculated and extracted from a total of 145 financial statements; however only 97 financial statements could provide viable figures for at least four variables (ROA, ACP, DR, CR) while 60 financial statements provided viable figures for five variables (ROA, ACP, APP, DR & CR) and only nine financial statements provided viable figures for all eight variables (ROA, ACP, ICP, APP, CCC, DR, CR & QR). This was major because only two of the SMEs were not serviced based companies. The other companies were serviced based, hence had no inventory data.

**Table 1: Descriptive Statistics**

Variable	N	Minimum Statistic	Maximum Statistic	Mean Statistic	Std Deviation Statistic	Skewness Statistic	S.E	Kurtosis Statistic	S.E
ROA	97	-10.819	1.025	-0.072	1.158	-8.531	0.245	79.224	0.485
ACP	97	0.000	1320.219	207.203	280.768	2.305	0.245	5.237	0.485
ICP	9	22.462	112.051	49.941	27.132	1.656	0.717	3.243	1.400
APP	60	0.247	153.085	38.592	36.920	1.280	0.309	1.362	0.608
CCC	9	-100.337	108.853	18.130	67.217	-0.602	0.717	-0.266	1.400
DR	97	0.000	3.878	0.570	0.804	2.822	0.245	7.960	0.485
CR	97	0.158	137.180	8.649	20.162	4.395	0.245	21.731	0.485
QR	9	-9.262	37.004	4.887	12.741	2.332	0.717	6.664	1.400

The above descriptive statistics show the different sample size (N) of the variables. ROA, ACP, DR, CR values were generated from 97 financial statements, APP was generated from 60 financial statements while ICP, CCC, and QR were only generated from 9 financial statements. The variables were descriptively analysed based on their different sample sizes to prevent wrong or biased findings.

The ROA of the financial statements showed a mean of -0.072 depicting average negative ROA with a minimum of -10.819 and a maximum value of 1.025. The ACP had a mean of 207.203 days with a minimum value of zero for financial statements with no Account Receivables and maximum value of 1320.219; the distribution was highly skewed as there were a few companies with very high ACP values. The ICP had a mean value of 49.941 days with a minimum value of 22.462 days and a maximum value of 112.051 days. The APP had a mean of 38.592 days with a minimum value of 0.247 days and a maximum value of 153.085 days. The CCC had a mean of 18.130 with a minimum value of -100.337 and a maximum value of 108.853. The DR had a mean of 0.570 with a minimum value of 0.000 and a maximum value of 3.878. The CR had a mean of 8.649 with a minimum value of 0.158 and a maximum value of 137.180. The QR had a mean of 4.887 with a minimum value of -9.262 and a maximum value of 37.004.

### Correlation Analysis

The correlation coefficient is defined for paired observations; hence it is not possible to calculate the correlation coefficient of variables with different sample sizes (N). Based on this Pearson Correlation analysis was first carried out on the majority of the financial statements with the most variables (N= 60 for correlation between ROA, ACP, APP, DR & CR); and secondly carried out on the nine (9) financial statements with information on all the variables.

**Table 2: Pearson Correlation Analysis (N=60)**

		ROA	ACP	APP	DR	CR
ROA	Pearson Correlation	1				
	Sig. (2-tailed)					
ACP	Pearson Correlation	0.049	1			
	Sig. (2-tailed)	0.710				
APP	Pearson Correlation	-0.011	-0.053	1		
	Sig. (2-tailed)	0.933	0.689			
DR	Pearson Correlation	-0.045	-0.059	0.405**	1	
	Sig. (2-tailed)	0.735	0.655	0.001		
CR	Pearson Correlation	0.092	-0.050	-0.388**	-0.234	1
	Sig. (2-tailed)	0.482	0.703	0.002	0.072	

\*\* Correlation is significant at the 0.01 level (2-tailed)

Pearson Correlation analysis between ROA, ACP, APP, DR and CR for 60 statements showed no significant strong positive correlation between the variables; however, there were substantial weak correlations between APP and DR (0.405) at 0.01 level of significance and between CR and APP (-0.388) at 0.01 level. There was no correlation between ROA and any of the predictors.

**Table 3: Pearson Correlation Analysis (N=60)**

		ROA	ACP	ICP	APP	CCC	DR	CR	QR
ROA	Pearson Correlation	1							
	Sig. (2-tailed)								
ACP	Pearson Correlation	0.219	1						
	Sig. (2-tailed)	0.571							
ICP	Pearson Correlation	-0.269	0.300	1					
	Sig. (2-tailed)	0.483	0.433						
APP	Pearson Correlation	-0.175	-0.112	0.280	1				
	Sig. (2-tailed)	0.653	0.774	0.465					
CCC	Pearson Correlation	-0.056	0.628	0.298	-0.755*	1			
	Sig. (2-tailed)	0.886	0.070	0.437	0.019				
DR	Pearson Correlation	-0.275	0.393	0.036	0.492	-0.227	1		
	Sig. (2-tailed)	0.474	0.295	0.927	0.178	0.557			
CR	Pearson Correlation	0.910**	-0.349	-0.295	-0.463	0.117	-0.526	1	
	Sig. (2-tailed)	0.001	0.357	0.441	0.209	0.765	0.146		
QR	Pearson Correlation	0.961**	-0.205	-0.270	-0.335	0.081	-0.435	0.962**	1
	Sig. (2-tailed)	0.000	0.597	0.483	0.379	0.836	0.241	0.000	

\*\* Correlation is significant at the 0.01 level (2-tailed)

\*Correlation is significant at the 0.05 level (2-tailed)

Pearson Correlation analysis between all variables (ROA, ACP, ICP, APP, CCC, DR, CR & QR) for nine statements showed significant positive correlation between ROA and CR (0.910) at 0.01 level of significance, ROA and QR (0.961) at 0.01 level of importance, QR and CR (0.962) at 0.01 level of importance. A significant negative correlation was found between APP and CCC (-0.755) at 0.05 level of significance.

### Regression analysis

Regression analysis was carried out to determine if ACP, ICP, APP, DR, CR, and QR were significant predictors of ROA. This was first carried out on the 60 samples with at least five viable independent variables values and then on the nine samples with viable values for all seven independent variables as done in the Pearson's correlation analysis.

**Table 4: Regression Analysis: 60 Financial Statements**

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.116 <sup>a</sup>	.013	-.058	1.501080	.013	.188	4	55	.944

a. Predictors: (Constant), CR, ACP, DR, APP

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.	95% Confidence Interval	
						Lower	Upper
Constant	-0.334	0.408		-0.821	0.415	-1.151	0.482
ACP	0.001	0.002	0.055	0.406	0.686	-0.003	0.004
APP	0.002	0.006	0.047	0.303	0.763	-0.010	0.014
DR	-0.058	0.241	-0.036	-0.243	0.809	-0.540	0.424
CR	0.006	0.009	0.105	0.718	0.476	-0.011	0.023

A test of goodness of fit using R squared value showed that the model is not fit for regression analysis. The R squared value (0.013) shows that only 1.3% of the variation in ROA can be explained by ACP, APP, DR, and CR. However, regression analysis was still carried out, and probability values and confidence intervals showed no significant relationship between ROA and the four predictors

**Table 5: Regression Analysis: 9 Financial Statements**

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.983 <sup>a</sup>	.967	.866	.121308427642391

a. Predictors: (Constant), APP, ACP, QR, ICP, DR, CR

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.	95% Confidence Interval	
						Lower	Upper
Constant	-0.249	0.232		-1.074	0.395	-1.249	0.750
ACP	0.001	0.004	0.114	0.310	0.786	-0.018	0.020
ICP	-0.001	0.002	-0.062	-0.315	0.783	-0.011	0.010
DR	0.438	0.992	0.100	0.441	0.702	-3.829	4.705
CR	0.015	0.028	0.645	0.519	0.656	-0.107	0.136
QR	0.013	0.029	0.481	0.434	0.706	-0.111	0.136
APP	0.002	0.002	0.266	0.702	0.555	-0.008	0.011

a. Dependent Variable: ROA

b. Predictors in the Model: (Constant), APP, ACP, QR, ICP, DR, CR

Excluded Variables

Model	Beta In	T	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	CCC <sup>b</sup>	.	.	.	.000

A test of goodness of fit using R squared value showed that the model is fit. The R squared value (0.983) shows that 97% of the variation in ROA can be explained by the seven predictor variables (ACP, ICP, APP, CCC, DR, CR, QR). However, regression analysis results showed no significant relationship between ROA and the seven predictors. The software excluded CCC from the regression analysis because it can be correctly predicted from ACP, ICP, and APP. This is shown in the Tolerance value from the analysis, which was seen to be zero (0), thereby depicting perfect collinearity.

### Findings Conclusion and Recommendation

From the analysis carried out, there was no relationship between ROA and CR, ACP, DR, and APP using the 60 Financial Statements as only 1.3% of the variation in ROA can be explained by ACP, APP, DR, and CR. On the other hand, using the seven predictor variables of (ACP, ICP, APP, CCC, DR, CR, and QR), it was observed that 87% of the variation in ROA could be explained by the seven predictors though with no significant relationship between the ROA and the seven predictors.

The SMEs used for the analysis has negative Returns on Assets with ACP of 207 days and APP of 38days. Generally, SMEs are not comfortable managing their working capitals as required. The CCC and the ICP of 18 and 50 respectively are considered too high. The study, therefore, shows that SMEs are entangled with the ability to survive in the face of strict credit conditions that negatively impact on the working capital management hence, little or no impact on the profitability of the SMEs.

The study recommends that the collection and payment policies of SMEs should be reviewed. Hence, SMEs should seek for a more extended period in payment for goods and services to improve the firm's performance. On the other hand, SMEs should ensure prompt payment from debtors since the delay in making payment for products and services has a negative effect on the SMEs' performance. This became justified when the ACP of 207days is compared with the APP of 38days.

SMEs need to reduce their cash holdings, maybe by adopting the cashless transactions policy, especially for small and medium-size receipts and payments. This will enable them to unlock resources that can be deployed elsewhere to generate positive returns.

Government policy should be geared towards enhancing the growth of SMEs before such policies are implemented. Nigeria cannot be clamoring for ease of doing business and be making policies that are anti-progress for business owners, especially the SMEs.

SMEs should adopt prudent working capital policies and strategic measures aimed at improving the working capital structure of the finance, ultimately the profitability of the firms.

Working Capital management should be the concern of SMEs. Hence, it should be given due consideration among SME managers.

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