WORKING CAPITAL MANAGEMENT AND PROFITABILITY OF LISTED CONGLOMERATE FIRMS IN NIGERIA

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BEING A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE (M.Sc), ACCOUNTING AND FINANCE

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DECLARATION

I declare that this work entitled “Working Capital Management and Profitability of Listed Conglomerate Firms in Nigeria” has been performed by me in the Department of Accounting Ahmadu Bello University, Zaria, and that all the reviewed literature has been acknowledged and references provided.

Muhammad Lukman Lawal ..... Date.....

CERTIFICATION

This work entitled "Working Capital Management and Profitability of Listed Conglomerate firms in Nigeria", by Muhammad Lukman Lawal, meets the regulations governing the award of the degree of Masters of Science in Accounting and Finance of Ahmadu Bello University, Zaria and is being given approval for contributing to knowledge and literary presentation.

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ABSTRACT

Despite efforts being made by relevant stakeholders to improve performance, most firms do not ensure optimal level of working capital and this has been a major obstacle to their overall profitability. Efforts were made by this study to examine the impact of working capital management on the profitability of conglomerate firms listed on the Nigerian Stock Exchange. Data were collected from the annual reports of the six conglomerate firms listed on the Nigerian Stock Exchange for a period of 10 years (2006-2015); correlation research design was used, while ordinary least regression (OLS) was employed in data analysis. Using panel data methodology, the study found a significant positive relationship between cash conversion cycle and profitability; an insignificant negative relationship between debtor's turnover ratio and profitability; and an insignificant positive relationship between inventory turnover ratio and profitability. The study suggests that managers of conglomerate firms should give adequate attention to debtor's and inventory turnover and try to maintain an optimal working capital levels.

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CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

The resources of a firm that are used to conduct the day-to-day activities of any business are referred to as the working capital. Its proper management is one of the most important areas in determining the success of a firm. It is generally believed that the working capital is the amount of capital which is readily available to an organization; that is, the difference between resources in cash or readily convertible into cash (current assets) and the organizational commitments for which cash would soon be required (current liabilities). Looking at this, it can be said that working capital simply means the resources which a firm has at hand to run its daily operations.

Working capital connotes the funds locked up in materials, work in progress, finished goods (inventory), account receivables (debtors) and cash. In this regard, Khan and Jain (2005) state that current assets are those assets, which can be converted into cash within a short period of time, and the cash received is again invested into these assets; hence, it is constantly revolving or circulating. Therefore, working capital is one of the most important measurements of the financial position, which according to Guthmann (2008) is the life-blood and nerve centre of any business entity. For the reasons and more, the proper and efficient management of the working capital of every business becomes a necessity if not obligatory.

Working capital management is concerned with managing the different components of current assets (inventories, debtors/receivables, cash/bank, short-term investments, prepaid expenses) and current liabilities (creditors/payables, provision for tax, other provisions against the liabilities payable within a period of 1 year) in such a way and manner that optimum level of working capital is attained and maintained. All this is very crucial in order

to promote a satisfactory profitability and thus achieve the goal of the business which is the maximization of shareholder's wealth (Ojeani, 2014). It is therefore of importance to state at this juncture, as posited by Ojeani (2014) that optimal efficient working capital is usually achieved through the management of inventory, receivables, payables, cash conversion cycle and the operating cycle as a whole. In essence, managing working capital is necessary owing to its direct impact on the profitability and liquidity of a corporate entity.

Osisioma (1997) reveals that working capital management ensures a sound liquidity and attainment of profit generating process, and also ensures acceptable relationship between the components of firms' working capital for efficient mix which guarantees capital adequacy. Inventory management, according to Stephen (2012), consists of three components: raw material, work-in-progress and finished goods. He further explains that the holding of excessive stocks will lead to tying up capital in stocks while the holding of inadequate stock may lead to stock out cost such as lost profitability and goodwill from customers. Therefore a firm needs to set an optimal level of stock. Van Horne (1995), in his view on receivables, says that account receivables management involves achieving an optimal average time taken by credit customers to settle their accounts. Moreover, since the purpose of giving out credit is to maximize profitability, the cost of debt collection should not be allowed to exceed the amounts recovered. Cash conversion cycle, according to Wang (2002), is used to measure cash management, and it represents the interaction between the components of working capital and the flow of cash within a company. Similarly it can also be used to determine the amount of cash needed for any sales level; it is therefore a period of time between the cash outlay on raw materials and the inflow of cash from sales of finished goods.

It is believed that the management of working capital will go a long way in the achievement of profitability and overall performance of businesses since there is a great relationship between level of a company's liquidity and its profitability Ojeani (2014). This implies that a

firm's liquidity does, to a large extent, determine its profitability. However, liquidity and profitability are not the same but are the core objectives of a firm. Any attempt to increase profitability by reducing the liquidity can bring some problems as goals cannot be ignored at any cost. If the goal of maximizing profit is ignored, survival is not possible for a longer time and if liquidity objective is ignored, insolvency or bankruptcy could be faced (Qazi, Syed, Zaheer and Nadeem, 2011). Managers must therefore endeavour to monitor and appropriately manage the in-balances .

The foregoing discussions have gone a long way to demonstrate the need to balance working capital position of the business enterprise in order to maintain adequate liquidity, minimize risks and raise profitability at all times. Although several researches have been conducted in various industry, like the manufacturing industry, banking industry, building industry and so on, but no attention has been given to the Nigerian conglomerate industry. It is on the above that the research aims at evaluating the impact of working capital on the profitability of firms in the Nigerian conglomerate industry.

Therefore, this study focuses on conglomerate companies in Nigeria; the conglomerate industry manufactures and distributes variety of goods mostly of household use.

1.2 Statement of the Problem

One of the major objectives of working capital management is to ensure that corporate entities have sufficient, regular and consistent cash flow to fund their activities. Therefore, efficient working capital management could enable firms in sustaining growth which, in turn leads to strong liquidity and profitability for ensuring effective and efficient customer services. As such efficient management of working capital is very vital for a business survival. A company, whose working capital is poorly managed, for instance, is prone to financial crisis when faced with unforeseen circumstances such as unforeseen expenditure. Thus, an investor who invests in

such a company tends to get disappointed at the end of the day because it (the company) is bond to fold up at the initial stage. Stephen (2012) says that evidence that most business organizations do not hold the right amount of stocks, debtors and cash; as a result of which the firms are unable to meet their maturing short term obligations and its upcoming operational needs.

Similarly, insufficient working capital means that a firm is unable to undertake expansion projects and increase its sales, therefore limiting the growth and profitability of the business. Empirical efforts have been made by researchers to proffer solutions to these problems of working capital management faced by some firms; most of the researches still have some lapses due to approaches and methodologies adopted. For instance, some of these works were carried out trying to study the impact of an optimal inventory management on profitability; many others only focused on the optimal way of managing receivables to attain desired level of profitability: Rahmen and Nasr (2007) studied effect of working capital management on the profitability of a sample of 94 pakistani companies listed on Karachi Stock Exchange for a period of six years; Lazaridis and Tryfonidis (2006) studied the relationship between working capital management and corporate profitability of listed companies on the Athens Stock Exchange. They used a sample of 131 listed companies for the period 2001-2004. The results from the regression analysis suggest that there is a statistical significant positive relationship between profitability, measured through gross operating profit, and the cash conversion cycle; Ganesan, (2007) analyzed working capital management efficiency and profitability and liquidity of firms in Telecommunication equipment industry in USA, using a sample of 349 companies for a period of 7 years (2001-2007). Using correlation and regression analysis, the results indicated that there is a significant negative relationship between cash conversion cycle which was used as a measure of working capital management and firm's profitability.

Uremadu, Egbide and Enyi (2012) also tried to determine the effect of working capital management and liquidity on profitability of listed firms in the Nigerian productive sector for a period of 2 years (2005-2006). The micro-data were analyzed using descriptive statistics and ordinary least square (OLS) methodology. They discovered a negative relationship between cash conversion cycle, creditors' payment period and profitability but a positive relationship between inventory conversion period, debtors collection period and profitability. It was also discovered that cash conversion cycle is the most significant precision variables in influencing profits and leads corporate profitability in Nigeria.

Despite the existence of all these studies, a careful look at all of them, one will quickly discover that little or none exists on the relationship between working capital management and profitability using combined variables (debtor turnover, inventory turnover and cash conversion cycle as proxies for working capital management) and Return on Asset-ROA (as proxy for profitability).

Furthermore, another problem associated with these studies is that most of them used just one dependent variable to proxy profitability. Also worthy to note is the fact that none of the studies is being carried out on conglomerate companies in Nigeria. Though Nwidobie (2012) chose conglomerate as one of the sectors when he studied the effect of working capital management on profitability of some selected manufacturing companies. The problem with Nwidobie's study is the use of cross-sessional data. This study used panel data.

In view of the above therefore, the researcher is being motivated to carry out this study in order to fill this gap.

1.3 Objectives of the Study

The main objective of this study is to examine the impact of working capital management on the profitability of listed conglomerate companies in Nigeria. The specific objectives are to:

(i) investigate the impact of debtor's turnover ratio on profitability of listed conglomerate companies in Nigeria.

(ii) determine the impact of inventory turnover ratio on profitability of listed conglomerate companies in Nigeria.

(iii) examine the impact of cash conversion cycle on profitability of listed conglomerate companies in Nigeria.

1.4 Hypotheses of the Study

In view of the above stated objectives, the following null hypotheses are formulated:

Ho1 Debtor's turnover has no significant impact on the profitability of listed conglomerate companies in Nigeria.

Ho2 Inventory turnover has no significant impact on the profitability of listed conglomerate companies in Nigeria.

Ho3 Cash Conversion Cycle has no significant impact on the profitability of listed conglomerate companies in Nigeria.

1.5 Scope of the Study

The study focuses on the issues of working capital management and profitability within the boundary of listed conglomerate firms in Nigeria. It is also of importance to mention that the whole population ,the six listed conglomerate companies on the Nigeria Stock Exchange as at 31st December, 2015 forms the sample size. Ten year (2006-2015) financial reports of the said companies were studied. The variables in use are Return on Assets, Return on Equity, Debtor turnover, inventory turnover and cash conversion circle.

1.6 Significance of the Study

This study is very significant in the sense that it centers on the working capital management which plays a critical role in the short-term liquidity position of companies. The study's findings may help the conglomerate firms in Nigeria and other companies in general to improve on their financial decision making so as to optimize the value of the shareholders and maintain a favourable trade-off between liquidity and profitability.

This study could broaden the knowledge of managers in choosing accurate working capital strategies that would improve their efficiency. This is because understanding the firm's liquidity position, as being discovered by this study, helps managers to be more efficient and productive bearing in mind the information at their disposal. The findings may be helpful to financial managers to be able to measure the level of safety for them to discharge obligations towards attaining profitability and to get prepared against eventualities. By this singular fact, awareness is being created for the financial managers that there is the need to pay serious attention to financing current assets. Managers of finance are therefore, expected to derive a lot of benefits from this work as it gives details and comprehensive analysis on the importance of working capital which is the main tool they use in achieving the desired goal of profit maximization.

Helping students of accounting and finance and researchers in the field on practical approach to knowledge. It is hoped that this piece is going to be of great use to the students of accounting and finance who may also have interest in researching further on this topic. This is because the work is expected to serve as one of the sources knowledge can be derived for students as well as researchers who may be interested in carrying out further study on similar topic.

Creditors/prospective creditors who may be interested in ascertaining the credit worthiness of the firms could also benefit from the study. This is because the credit worthiness of a firm is about meeting financial obligations as and when due. This can only be established through efficient management of firms' working capital.

This study is also going to add to the existing literature for the fact that it has employed two different dependent variables (Return on Assets and Return on Equity) to proxy profitability which has not been found in any of the early work.

Lastly, this study is significant in the sense that it can be of beneficial source of information to government of Nigeria who is always interested in promoting economic activities through establishing of an enabling environment.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter is a review of relevant and related literature on the relationship between working capital management and firm's profitability. This is undertaken in order to provide a theoretical background to the study and to be acquainted with the subject matter of the study. The chapter is divided into parts beginning with this introduction. The second part is the conceptual issues which deals with the definitions of the basic concepts related to the subject matter. The third part is the review of empirical studies that were previously carried out by other researchers on the subject matter, while the last part presents the theoretical framework that gives support to this work,

2.2 Concept of Working Capital

In financial management, two important decisions are very vital and crucial. They are decisions regarding fixed assets/ capital and working/current assets.

Fixed capital refers to the funds invested in fixed or permanent assets as land, building, and machinery and so on, whereas working capital refers to the funds locked up in materials, work in progress finished goods, receivables, and cash (Kantudu, 2009).

Thus, in very simple words, working capital may be defined as "capital invested in current assets''(Kurawa, 2009). Here current assets are those assets which can be converted into cash within a short period of time. Hence, working capital is also known as circulating or floating capital.

Akinsulere (2008) defines working capital as the amount invested in assets that are expected to be realized within a year's trading. It is not a permanent investment but an investment which is continuous in nature and can be turned over severally during a year. Alipour (2011)

views working capital as the amount of capital which is readily available to an organization. That is, the difference between resources in cash or readily convertible to cash (current assets) and the organizational commitment for which cash will soon be required current liabilities. Kurawa (2009) posits that working capital provides a measure of firm's liquidity or its ability to meet its short-term obligations as they become due.

Adeniyi (2008) describes working capital as the capital available for the day-to-day operations of an organization represented by its current assets. According to Kantudu (2009) working capital can be referred to as circulating assets which consist of stocks, accounts payable and receivable, cash and short-term securities. The stocks acquired through purchases create accounts payable. The finished goods in turn are sold out and create accounts receivable. The accounts receivable are converted into cash which is used to settle the accounts payable.

To Ojeani (2014), working capital is the excess of current assets over current liabilities. It is therefore concerned with the availability of fund to run a business. In the words of Khan and Jain (2005), they see working capital as the funds locked up in materials, work-in-progress, finished goods, receivable, and cash equivalent. With this definition, it can be understood that working capital is that part of total assets which is easily reverted to cash within a short term.

It is generally believed and held that working capital is all about current assets/liability. For instance, Khan and Jain (2005) hold that working capital is divided into two: Gross and Net. Gross working capital refers to the amount of funds invested in current assets that are employed in the business process while Net working capital is the difference between current assets and current liabilities. Furthermore, according to Pass and Pike (1984) working capital is the equilibrium between the income-generating and resource-purchasing activities of a company. That is the difference between current assets and current liabilities. They also say

that gross working capital (that is total current assets) refers to the firm's investment in current assets. Current assets are the assets which can be converted into cash within an accounting year or operating cycle. Therefore, gross working capital, to them, is the total current assets; while net working capital as the difference between current assets and current liabilities.

Similarly, Pandy (2005) also holds that there are two concepts of working capital. These are: (i) gross working capital and (ii) net working capital. That gross working capital refers to the firm's investment in current assets. Current assets are the assets, which can be converted into cash within an accounting year or operating cycle. Thus, gross working capital, is the total of all current assets. It includes; inventories, trade debtors, cash and bank balance, and bills receivables, among others. Net working capital: Net working capital refers to the difference between current assets and current liabilities. Current liabilities are those claims of outsiders, which are expected to mature for payment within an accounting year. Net working capital may be positive or negative. This measurement demonstrates how well companies can manage their short-term commitments. The optimum situation for most companies is when they manage financing of both expected and unexpected upcoming events without experiencing any financial distress (Maness & Zietlow, 2005).

Adeniyi (2008) says Positive net working capital will arise when current assets exceed current liabilities and firm can use the surplus of current assets to fulfil their financial commitments and obligations to shareholders which is a vital aspect for the continuing growth of any company. The advantages of having a positive net working capital are clear, but there are also disadvantage to consider and they occur when the companies have too high level of capital tied up in their current assets. Tied up capital, is capital that does not generate any additional value to the companies and would do more good in new investment that could bring the company further return (Lantz, 2008). While a negative net working capital occurs

when current liabilities exceed current assets. It means the company does not have enough own capital for financing its short-term debts.

Most companies suffer badly when their working capital is negative and this is a condition that also profitable companies can end up in if they do not manage their working capital efficiently. Therefore working capital assists in measuring the amount of credit applicable to the running of an enterprise (Lantz, 2008).

The above definitions reveal three important features that particularly distinguish working capital from other categories of the firm's capital. Firstly, investment in working capital is continuous in nature. That is, it is made on daily, weekly, monthly, quarterly, semi-annually or yearly basis. Secondly, the components of working capital are readily available or easily convertible into cash. Thirdly, working capital is used in settling the firm's short-term obligations and expenses. Thus, working capital is non-permanent portion of the firm's capital which is readily available for the satisfaction of both maturing short-term obligations and upcoming operational expenses (Adeniyi, 2008).

2.2.1 Concept of Working Capital Management

The interaction between current assets and current liabilities is the main theme of the concept of working capital management. According to Napompech (2012), working capital management involves planning and controlling of current assets and current liabilities in a manner that eliminates the risk of inability to meet short-term obligations on one hand and avoid excessive investment in current assets on the other. Qazi, Seyd, Zaheer and Nadeem (2011) define working capital management as an accounting strategy focusing on maintaining efficient levels of current assets and current liabilities in respect to each other.

Vineet and Sukhdev (2013) see working capital management from efficiency perspective and that can be measured and achieved through the cash conversion efficiency, days operating

cycle and days working capital. Working capital management is very fundamental to the liquidity and profitability of any organization and the two variables are vital in evaluating the performance and ultimately deciding the survival of the organization (Ikpefan & Owolabi, 2014). 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 going concern (BPP, 2006). 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).

According to Sen and Oruc (2009), working capital management is consequential to a firm and that is usually explained by the relationship between working capital management and profitability. Ikpefan and Owolabi, (2014) give more light on the importance of working capital management as they attributed the accelerated recovery from global economic meltdown to efficient working capital management by businesses. They say that "before 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."

Kurawa (2009) opines that working capital management deals with the determination of levels and compositions of current assets and ensuring that right sources of funds are tapped to finance current assets and ensuring that current liabilities are paid in time. Eljelly (2004) argues that working capital management involves making appropriate investment in cash, marketable securities, inventories and receivables as well as the level and mix of short-term financing. Sayaduzzaman (2006) elucidates that working capital management entails short term decisions generally relating to the next one year period which are reversible. These

decisions are not taken on the same basis as capital investment decisions; rather, they are based on cash flow and profitability.

Van Horne (2005) defines working capital management as the administration of current assets in the name of cash, marketable securities, receivables, and staff advances, and inventories. Osisioma (1997) holds that good working capital management must ensure an acceptable relationship between the different components of a firm's working capital so as to make an efficient mix which will guarantee capital adequacy. Therefore, working capital management should make sure that the desirable quantities of each component of the working capital are available for management.

Working capital is defined by Brigham and Ehrardt (2004) as the management of the investment in current assets and financing of the current assets, and it involves setting working capital management policy and carrying out that policy in a business's daily operations to achieve its gols and objectives; such as shareholders' wealth maximization, competitive advantage, and growth. Also in the words of Paulo (1992) working capital management is effective and efficient utilization of the business investment. In the view of Brigham and Ehrardt (2004) if performance criteria such as liquidity, solvency/bankruptcy, efficiency, profitability and economic value are considered, it will be clearly apparent that the business must hold and mange the different levels of working capital which are appropriate to its performance criteria.

Ajao and Nkechinyere (2012) assert that working capital management seeks to maintain an optimum balance of each working capital component thereby ensuring that firms operate with sufficient fund that will service their long term debt and satisfy both maturing short-term obligations and upcoming operational expenses. This therefore makes it more glaring that working capital management has a pivotal role to play in a firm's drive to achieve great

profitability. Raheman & Nasr (2007) propose that working capital management is concerned with the problem that arises in attempting to manage the current assets, the current liabilities and the inter-relationship that exist between them.

According to Kantudu (2009) working capital management involves both setting working capital policy and carrying out that policy in the day-to-day operations of the firm. Uremadu, Egbide & Enyi (2012) further explain that working capital management revolves around two basic issues: (a) The appropriate amount of current assets firm will hold and (b) How the current assets should be financed.

The first issue is that the consideration of the level of investment in current assets should avoid two danger points; excessive and inadequate investment in current assets. Investment in current assets should be just adequate, not more, not less to the needs of the firm. Excessive investment in current assets impairs profitability while inadequate investment in current assets threatens the liquidity or solvency of the firm because of its inability to meet its current obligations. Managers must therefore endeavor to monitor and appropriately manage the in-balances. The second issue on the other hand, covers the question of judicious mix of long-term and short-term funds for financing current assets (Egbide & Enyi, 2012).

From the above propositions it is clear that working capital management is aimed at achieving "an optimum balance between the twin objectives of profitability and liquidity by maintaining an appropriate level, volume, mixture, Composition and combination of various components of working capital to ensure that firms have sufficient funds to meet their short-term financial requirements" (Egbide & Enyi, 2012).

2.2.2 Components of Working Capital Management

Working capital management deals with the determination of optimum balance of each component of working capital to ensure that firms have sufficient funds to satisfy their short term obligations and upcoming operational expenses. Thus, the basic components of working capital management include inventory management, account receivable management, cash management and accounts payable management (Kantudu, 2009).

a. Inventory Management

Inventory management is the systematic control of stock through establishment of inventory control models, physical control as well as accurate and up-to-date records of stock (Uremadu,Egbide and Enyi, 2012). It covers the range of management techniques for controlling the level of stock holding so that profitability/competitiveness can be maximized. Inventories exist principally in the form of raw-materials, work-in-progress and finished goods. The level of inventory a company will hold depends on the nature of its business. Manufacturing firms hold higher levels of stocks compared to others. Inventories are approximately 60% of current assets in public companies in India (Pandey, 2004).

Similarly, Kurawa (2009) argues that inventories must be well managed to ensure continuous supply of raw-materials to avoid interruptions in production, maintaining sufficient stock of raw materials in period of scarcity and anticipated price changes, minimize carrying costs and time and keep investment in inventories at optimal level. Inventory turnover in days is another important component of working capital management which is also called inventory conversion period (Raheman, Qayyum and Afza 2011). According to them, it is the average time required to convert materials into finished goods and then to sell the goods. Pandey (2005) rightly states that inventory policy will maximize a firm's value at a point in which

incremental or marginal return from that investment inventory equals the incremental or marginal cost of funds used to finance it.

b. Account Receivable Management

Accounts receivables arise when a company sells products or services on credit and does not collect cash immediately. Firms grant trade credit for many reasons such as giving incentives to customers, to protect sales from competitors and attract potential customers, build and strengthen long-term relationships with dealers and to conform to past or industrial practice. Receivables management involves decisions relating to the investment in business debtors. In credit selling, it is certain that the firm have to pay the cost of getting money from debtors and to take some risk of loss due to bad debts. Receivables management begins with the decision of whether or not to grant credit. Where goods are sold on credit, a monitoring system is important, because without it, receivables will build up to excessive levels, cash flow (liquidity) will decline and bad debts will offset the profit on sales. Corrective action is often needed and the only way to know whether the situation is getting out of hand is to set up and then follow a good receivable control system (Kurawa, 2009). Van Horne (1995) states that since the purpose of offering credit are to maximise the profitability, the cost of debt collection should not be allowed to exceed the amount recovered.

The investment in accounts receivable depends on the volume of credit sales and the average collection period, which is determined by the firm's credit policy (Pandey, 2005). Kantudu (2009) proposes that credit policy is made up of three decision variables, namely; credit standard, credit terms and collection efforts. Changes in any of these variables will affect total investment in account receivable by the firm. Uremadu et al (2012) assert that all efforts the financial manager makes in setting credit standard, credit terms and credit collection periods should be geared towards establishing an optimal credit policy for the firm.

Ajao and Nkechinyere (2012) further amplify that an optimal credit policy is one which maximizes a firm's value, where the incremental or marginal return of an investment is equal to the incremental or marginal cost of funds used to finance that investment. Optimal credit policy invariably translates into an optimal investment in receivables which, in turn, maximizes firm's value or net worth. Usually, firms lengthen their credit period to raise their operating profit through expanded sales turnover program. However, there will be net increase in operating profit only when the cost of extended credit period is less than the incremental operating profit (Egbide & Enyi 2008).

In line with the foregoing, Lazaridis and Tryfonidis (2005) also maintain that credit periods granted to customers, in most cases, have a positive impacts on profitability. However, due to associated risks inherent in credit policy, financial managers, most often, vary with the level of receivables in keeping with the trade-off between profitability and risk. Raheman and Nasr (2007) add further that, given a significant investment in accounts receivable by most large firms, credit management policy choices and practices have important implications on corporate value and that successful management of accounts receivable will often lead to higher corporate profitability. Hence, there should be a guided flexibility introduced in managing a firm's customers (debtors) credit extension policy.

c. Cash Management

Cash is the ultimate output to be realized by selling of goods and services. It is the money that a firm can readily disburse without any restriction (Pandey, 2005). The functions of cash management include managing cash received and paid out by the company, managing of cash circulating within the company, managing cash balances held by the firm and investing of surplus cash and finding ways to finance cash deficits (Shin & Soenen, 1998).

Cash management, which is part of treasury management is concerned with optimizing the amount of cash available, maximizing the interest earned by spare funds not required immediately and reducing losses caused by delays in the transmission of funds (Uyar, 2009). Holding cash to meet short term needs incurs an opportunity cost equal to the return which could have been earned if the cash had been invested or put to productive use. However, reducing this opportunity cost by operating with small cash balances will increase the risk of being unable to meet debts as they fall due. So an optimum cash balance should be found (Uyar, 2009).

Tully (1994) defines cash management as a set of techniques that act on the short-term liquidity of a company, and at the same time affect those factors and processes that translate immediately into cash, with the ultimate aim of increasing both the liquidity and profitability of the company. In this sense cash management is the back bone of liquidity management as it affects corporate profitability. Cash in excess of what is required need to be invested in short term securities pending when it is required. The major problem faced by most businesses is the ability to determine the minimum cash level required by the business. Minimum cash level assist management to maintain enough cash to meet its day-to-day operating expenses.

Van Horne (2000) posits that cash management is important for many reasons; cash flows can not be predicted accurately. Also, cash inflows and outflows do not coincide perfectly in time and amounts. Kurawa (2009) argues that both cash collection and disbursement impact on the overall efficiency of cash management. To achieve efficient cash management, accounts receivable would have to be collected as soon as possible, but pay accounts payable as late as it is consistent with the firm's credit standing with suppliers.

Sayaduzzaman (2006) argues that the ultimate goal of the financial manager in the management of cash is similar to the management of other current assets. That is, the objective is to attain an optimal balance and turnover of cash. maximizes the market value of the firm. Attaining the optimal balance of cash means that effective and efficient management of cash should impact on both the firm's liquidity and profitability (Eljelly, 2004). According to Van Horne (2005), there are three reasons why companies hold cash. These are transaction motive, precaution motive and speculative motive. He said transaction reason for which companies need cash is to balance short-term cash inflows and outflows since these are not perfectly matched. This is called the transaction motive for holding cash, and the approximate size of the cash reserve can be estimated by forecasting cash inflows and outflows and by preparing cash budgets. In addition to the cash reserve held for day-to-day operational needs, cash may be built up to meet significant anticipated cash outflows. For instance, those arising from investment in a new project or redemption of debt (Van Horne, 1995). Precautionary motive, according to Van Horne (1995) is forecasts of future cash inflows due to uncertainty. This is because it is possible that a company will experience unexpected demands for cash which gives rise to the precautionary motive for holding cash. Reserves held for precautionary reasons could be in the form of easily realised short term investments. Van Horne (1995) says that companies may build up cash reserves in order to take advantage of any attractive investment opportunities that may arise.

Shin and Soenen (1998) explain that excess cash implies inefficiency of management in applying funds to profitable projects as idle cash earns no income. On the other hand, inadequate cash exposes the firm to risk of illiquidity since it would not be able to meet its short-term maturing obligations nor can it take advantage of viable investment opportunities. Therefore, financial manager should formulate a cash strategy that will ensure cash

management style which optimally enhances liquidity at all times and leverages cash surpluses on profitable operations.

Cash Conversion Cycle: the cash conversion cycle is used in measuring cash management and it represents the interaction between the components of working capital and the flow of cash within a company (Wang,2002). Cash conversion cycle can also be used to determine the amount of cash needed for any sales level; it is the period of time between the outlay of cash on raw materials and inflow of cash from the sales of finished goods and represents the number of days of operation for which financing is needed (Ojeani, 2014). Uyar (2009) posits that the longer the cash conversion cycle, the greater the amount of investment required in working capital. According to him, the length of cash conversion cycle depends on the on the length of: the inventory conversion period, the trade receivables collection period; and the trade payables deferral period. The length of the cash conversion cycle (CCC) is given by: CCC=inventory days + Trade Receivables days – Trade Payables days.

d. Accounts Payable Management

Accounts payable arise when a company buys product or services on credit but does no pay cash immediately. It constitutes a short-term source of finance along with accrued expenses and deferred income. Trade credits could take the form of bills payable or promissory notes (Akinsulere, 2011). Trade credit is a spontaneous source of finance and is relatively easy to obtain compared to other negotiated sources of finance (Pandy,2005).

Paterson and Rajan (1997) opine that accounts payable are largely dependent on the firm's purchases which in turn, will depend on the volume of production. Thus, a decision as to whether to take trade discount or not, or to stretch accounts payable or not, should be based on the cost and benefits analysis of a firm's credit policy in relation to profitability and liquidity of the enterprise. Alipour (2011) put it this way "the firm must balance the

advantages of trade credit against the cost of foregoing a possible cash discount, any possible late payment penalties, the opportunity cost associated with any possible deterioration in credit reputation and the possible increase in the selling price the seller imposes on the buyer."

Egbide and Enyi (2008) proposed that the ultimate effect of efficiently managing accounts payable is to optimize the cash outflow that ensures that a firm's liquidity is not adversely affected so that a company's profitability will not also be affected in the long run. Deloof (2003) argues that whether or not a company should take advantage of trade discount depends on the trade-off involved. If discount is taken, there is a benefit of less cash outflow but the credit granted beyond the discount period is forgone. If discount is not taken, credit is available for the extended period but the company pays more. Therefore, the opportunity cost of trade credit should be compared with the cost of other sources of credit.

Furthermore, Svensson (1997) is of the opinion that delaying the payment of trade credit beyond due dates generates additional short-term finance but not without cost. Implicit cost of credit will increase as cash discount is forgone and penalty may be imposed. Moreover, the firm's credit worthiness will be affected which means it will not be able to obtain credit in the future and also from other sources of funds. Hence, the firm's management policy with regard to accounts payable or trade credit should be aimed at striking balance among various factors which directly or indirectly influence the profitability objective of the firm.

2.2.3 Determinants of Working Capital

A large number of factors influence the working capital needs of firms. All factors are of different importance and therefore, an analysis of the relevant factors should be made in order to determine the total investment in working capital. Generally the following factors influence the working capital requirement of the firm.

Nature and size of the business: the nature and the working capital requirement of firms are interlinked. In practice the manufacturing industry has a long cycle of operation of the working capital, the same would be short in an enterprises involved in providing services. The amount required also varies as per the nature, an enterprise involved in production would require more working capital than a service sector enterprises (Uremadu, Egbide & Enyi, 2012).

Sales and Demand condition: there is a relationship between volume of sales and working capital needs of an organization. Though, it may be difficult to precisely determine the relationship between volumes of sales and working capital needs. In practice current assets will have to be employed. It is therefore necessary to make advanced planning of working capital for a growing firm on a continuous basis (Akinsulere, 2011).

Manufacturing cycle: the manufacturing cycle starts with the production of raw materials and is completed with the production of finished goods. If the manufacturing cycle involves a longer period the need for working capital will be more. At a time business needs to estimate the requirement of working capital in advance for proper control and management. The factors discussed above influence the quantum of working capital in the business. The assessment of the working capital requirement is made keeping this factor in view. As such, for correct assessment of the working capital requirement the duration at various stages of the working capital cycle is estimated. Thereafter, proper value is assigned to the respective current assets depending on its level of completion (Hanson, 2003).

Price level changes: generally raising price level requires a higher investment in the working capital. With increasing prices, the same levels of current assets needs enhanced investment.

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 terms are available to it. Similarly, the availability of credit from banks also influences the working capital needs of a firm (Alipour, 2011).

Credit policy: the credit policy of the firm affects the working capital by influencing the level of debtors. The credit terms to be granted to customers may depend upon the norms of the industry to which the firm belongs (Hanson, 2003).

Operation: the requirement of working capital fluctuates for seasonal business. Its needs of such business may increase considerably during the busy period (Hanson, 2003).

Market condition: if there is a high competition in the chosen project category then one shall need to offer sops like credit, immediate delivery of goods and so on for which the working capital requirements will be high. Otherwise if there is no competition or less competition in the market then the working capital requirement will be low (Alipour, 2011).

2.2.4 Working Capital Management Policy

The needs for policy formulation on working capital management by management of companies cannot be over emphasized considering the important role it plays in attaining the desired goals. Chittenden, Poutziouris & Michaelas (1998) hold that a company should have working capital policies on the management of inventory, trade receivables, cash and short-term investments in order to minimize the possibility to illiquidity and inefficiency. Working capital policies need to consider the nature of the company's business since different businesses will have different working capital requirements (Chittenden, Poutziouris & Michaelas, 1998). Ojeani (2014) says that a sensible working capital policies will reflect corporate decision on: the total investment needed in each type of current assets, that is the mix of current assets; and the way in which current assets are to be financed.

According to Kantudu (2009), working capital management policy is a strategy that specifies the rules or parameters for determining how much should be tied down in each item of current asset and what proportion of the total fund should be financed with short-term or long-term sources. In line with this, Napompech (2012) states that working capital policy refers to the firm's basic policies regarding target level for each category of current asset and deciding how current asset will be financed. Napompech (2012) holds firm's current assets investment or holding policy can be categorized into three:

Conservative Policy: A conservative policy is a relaxed current assets investment policy which Brigham and Ehrhardt (2004) referred to as "fat cat" policy. Large amount of cash, marketable securities and inventories are carried. A credit policy that provides liberal financing to customers is used to stimulate sales. This results in high level of receivables.. In the words of Chittenden, Poutziouris and Michaelas (1998), a conservative and more flexible working capital policy for a given level of turnover would be associated with maintaining a larger cash balance, perhaps even investing in short-term securities, offering more generous credit terms to customers and holding higher levels of inventory. This policy implies greater liquidity and lower risk of insolvency but gives a lower profitability.

Aggressive Policy: Aggressive policy is a restricted current asset investment policy that is referred to by Brigham (2002) as the "lean-and-mean" policy. The stock of current assets held is minimized and turned over so frequently such that each Naira of current assets is forced to "work harder" (Kurawa, 2009). Chittenden, Poutziouris and Michaelas (1998) maintain that an aggressive policy with regards to the level of investment in working capital means that a company chooses to operate with lower levels of inventory, trade receivables and cash for a given level of activity or sales. They went further to say that though aggressive policy will increase profitability since less cash will be tied up in current assets, it will also

increase risk since the possibility of cash shortages or running out of inventory is increased. This policy indicates poor liquidity and higher risk of insolvency but results in higher profitability.

Moderate Policy: Moderate policy involves average investment in current assets. It is expected to maintain a middle path between the aggressive and conservative approaches (Ojeani 2014). Kantudu (2009) argues that the policy tries to strike a balance between profitability and liquidity proportionate to the level of current assets being held. The policy therefore, falls in-between conservative and aggressive policies. Chittenden, Poutziouris and Michaelas (1998) say that the working capital policy of a company can be characterized as being aggressive, moderate or conservative only by comparing them with the working capital policies of similar companies. Chittenden, Poutziouris and Michaelas (1998) held that there are no absolute benchmarks of what may be regarded as aggressive, or otherwise, but these charactarations are only useful for analyzing the way and manner in which individual company approaches the operational problem of working capital management.

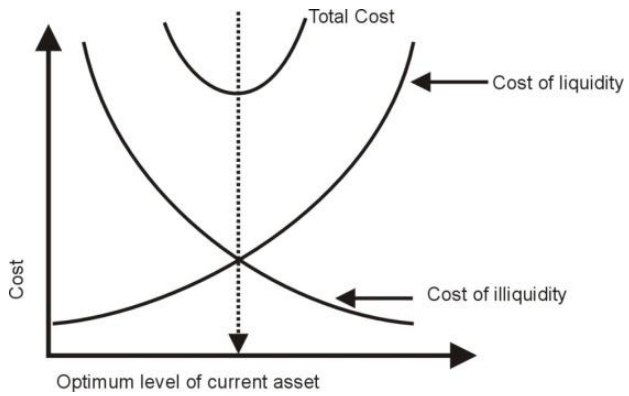
2.2.5 Determination of Optimum Level of Working Capital

The optimum level of working capital can be arrived by considering it from the cost aspect of holding current assets. According to Pandey (2005), there are two types of cost associated to holding a particular level of current assets. These costs are the cost of liquidity and the cost of illiquidity. Cost of liquidity refers to the cost of holding high level of current assets. If the current assets level is high, the organization will be highly liquid but its profitability will be greatly affected as the excessive current assets tied up in cash and in stock earn nothing and similarly, high level of debtors will reduce profitability as well. Hence, the higher the level of current assets being held, the more liquid the organization will be and the higher the cost of liquidity. Conversely, an organization may decide to maintain low level of current assets; which results in illiquidity that also has costs associated to it. Such costs include risk of being

unable to honor financial obligations as they become due, borrowing at a high level of interest, poor credit worthiness, loss of sales and eventually loss of customers to competitors. However, illiquidity has some benefits associated to it, most important of which is high level profitability. Hence, all things being equal, the more illiquid an organization is, the more profitable it will be (Kantudu ,2009).

To determine the optimum level of working capital, balance is maintained between the cost of liquidity and the cost of illiquidity . Hence, optimum level of working capital will be that level of current assets where the cost of liquidity equals to the cost of illiquidity (Pandey, 2005). In fig 2.1 (a), the optimum level of working capital is where the cost of liquidity curve cuts the cost of illiquidity curve, resulting in a minimum point on the total cost curve. With increasing liquidity the cost of liquidity increases. Similarly, cost of illiquidity increases as the level of current assets decreases. Therefore, current assets should be maintained at a level where the sum of these two costs is minimized. That is, where the cost of liquidity curve cuts the cost of illiquidity curve and the total cost curve at the minimum point.

Fig. 2.1 (a): Cost Trade-off



Source: Pandey (2005)

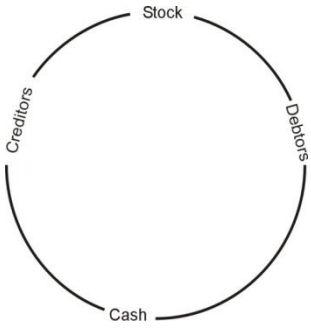
2.2.7 Concept of Operating Cycle

The most important method of calculating the working capital need of a firm is the concept of operating cycle also known as working capital cycle. How much a firm will invest in current assets is determined by its operating cycle. It estimates the working capital requirements on the basis of average holding period of current assets and relates them to cost based on the firm's experience in the previous years (Kantudu, 2009). According to Akinsulere (2011), "operating cycle is the length of time it takes to acquire inventory of raw materials, convert them to finished products, sell them and collect cash from sales". Thus operating cycle begins life as inventory, it is converted into accounts receivables when it is sold and it is finally converted to cash when cash is collected from sales.

Pandy (2005) refers to operating cycle as the gross operating cycle, which is made up of the Inventory Conversion Period (ICP) and the Debtors Conversion Period (DCP). Thus, the operating cycle is ICP + DCP. The inventory conversion period measures the length of time on average between acquisition and sales of merchandize. While the debtors' conversion period measures the average number of days from the sale of goods to collection of resulting receivables. Sayaduzzaman (2006) views operating cycle as a trading cycle which is the period between the acquisition of inventory and the collection of cash from receivables.

Akinsulire (2011) went further to differentiate the operating cycle from the cash cycle by saying that operating cycle tells the complete story in the sense that it covers a longer period of time from conversion of inventory through to the collection of sales, whereas the operating cycle explains the financial implications of working capital policies, the cash cycle explains the time interval required by the firm to meet its financial commitments.

Fig.2.2(b): Operating Cycle



Source: Akinsulere (2011)

2.3 Concept of Profitability

Every investor undertakes investment carefully with the motive of earning returns on his investment. One of the main objectives of a firm therefore is to make good profit. Profit backed up with cash will make it possible for management to distribute dividend to the investors (Kurawa, 2009). He further asserts that profitability can be best measured in terms of return on assets (ROA), return on earnings (ROE) and as well as return on capital employed (ROCE).

According to Rahmen and Nasr (2007), the term investment may refer to total assets or net assets. They say that the fund employed in net assets is known as capital employed. That the net assets equal net fixed assets plus current assets minus current liabilities excluding bank loan. They went further to say that investment refers to pool of funds supplied by shareholders and lenders. The conventional approach to calculating Return on Investment is to divide profit after tax by investment. For return on equity, Rahmen and Nasr (2007) hold that common and ordinary shareholders are entitled to the residual profits; nevertheless, the net profit after tax represents their own. It is held by them that a return on shareholder's equity is calculated to see the profitability of owners' investment. The shareholders equity or

net worth will include paid up share capital, share premium and reserves and surplus less accumulated losses (Rahman & Nasr 2007).

Return on Equity (ROE) is net profit after tax divided by shareholders' equity which is given as net worth. Return on Assets (ROA) expresses the net income earned by a company as percentage of the total assets available for use by that company (Pandy, 2005). According to him, the companies with higher amounts of assets are expected to make more profits that those with little. Return on Assets measures management ability to earn a return on the firm's resources Kurawa (2009).

According to Sohail (2011), profitability refers to the ability of a firm to earn returns on investment made in its assets that has a positive net present value. A financial action that has a positive net present value will create wealth for shareholders and is therefore desirable. A financial action resulting in a negative net present value should be dropped because it will endanger share holders' wealth.

Hill, Kelly and Lockhart (2012) describe firm's profitability as the ability to generate revenue in excess of the cost of generating such revenue. It is a relative term measurable in terms of profit and its relation with other elements that can directly influence the profit. Profitability measures management efficiency in the use of organizational resources in adding value to the business.

In the words of Raheman and Nasr (2007) "every business is most concerned with its profitability". They define profitability as the ability to make profit from all the business activities of an organization, firm or an enterprise. Additionally, it shows how efficiently the management can make profit by using all the resources available at market. They also said that one of the most frequently used tools of financial ratio analysis is profitability ratios which are used to determine the company's success. Ricci and Vito (2000) maintain that the

basic purpose of managing working capital is is to control the financial resources of a firm in such a way that a balance is created between profitability of the firm and risk associated with that profitability. Raheman and Nasr (2007) argue that a company should earn profit to survive and grow over a long period of time. They however say that, though profits are essential, all management decisions should not be profit centered at the expense of the concerns for the customers, employees, suppliers or social responsibilities.

Deloof (2003) held that profitability refers to the ability of an enterprise to generate profit from its investment. According to him, the management of cash, debtors, and stocks affects the level of profit made by organization. He further explains that the excessive holding of stocks leads to high stock handling costs, deterioration in the value of stocks due to damage and obsolescence, theft or pilferage by employees and wastage, and all these reduce a firm's profitability.

2.4 Review of Empirical Studies

The impact of working capital management upon firm's profitability has been the focus of a substantial amount of theoretical and empirical researches for many years and in different environments. Most of those studies revolve around two main issues: interaction between cash conversion circle and profitability and trade-off between liquidity and profitability. Thus, this study intends to review the previous empirical studies along these two issues.

2.4.1 Cash Conversion Cycle and Profitability

Cash conversion cycle is widely used as the most comprehensive measure of working capital management. It is a composite metric describing the average number of days it takes to turn a Naira invested in raw materials into a Naira collected from customers (Kurawa, 2009). The relationship between cash conversion cycle and profitability does not have a clear demarcation as two schools of thought have emerged namely: the traditional and conventional. The traditional school believes that a short cash conversion cycle favours profitability and the conventional view holds that a longer cash conversion cycle can lead to improvement of profitability. Consequently, researchers around the world have subjected this relationship to empirical examinations at different platforms.

For example, Lazaridis and Tryfonidis (2006) studied the relationship between working capital management and corporate profitability of listed companies on the Athens Stock Exchange. They used a sample of 131 listed companies for the period 2001-2004. The results from the regression analysis suggest that there is a statistical significant positive relationship between profitability, measured through gross operating profit, and the cash conversion cycle. From the results, the authors argue that managers could create value for shareholders by handling correctly the cash conversion cycle and by keeping each different component to an optimum level.

Alipour (2011) studied the relationship between working capital management and corporate profitability in Iran using a sample of 1063 companies listed on the Tehran Stock Exchange for a period of 6 years (2001-2006). Cash conversion cycle was used as a major tool of measuring working capital management efficiency. Multiple regressions and Pearson's correlation were used to test the hypothesis of the study. The results indicated that there is a significant negative relationship between cash conversion cycle, number of days accounts receivable and inventory turnover in days and corporate profitability. Also noted is a direct significant relationship between number of days accounts of payable. Therefore managers can create value for their share-holders by decreasing accounts receivable, inventory and cash conversion cycle.

Garcia and Martinez (2007) studied the impact of working capital management on the profitability of European companies using a sample of 2, 974 non-financial companies listed on 11 European Stock Exchanges namely: Euronext Processes, Frankfurt Stock Exchange, Athens Stock Exchange, London Stock Exchange, Warsaw Stock Exchange, Helsinki Stock Exchange, Milan Stock Exchange, Euronext Amsterdam, Euronext Paris, Euro next Lisbon and Madrid Stock Exchange for a period of 12 years (1998-2009). GLS and OLS regression analyses were used to analyze the data. The results revealed that there is a significant negative relationship between gross operating profit which was used as a measure of profitability and cash conversion cycle which was used as a measure of working capital management.

Azhar and Noriza (2010) investigated the relationship between working capital management and performance of listed firms in Malaysia. Data for the study were collected from Bloomberg's Database of 172 listed companies randomly selected from Bursa Malaysia main board for a period of 5 years from 2003 to 2007. The study specifically examined the effects

of working capital component, that is, cash conversion cycles (CCC), current ratio (CR), current asset to total asset ratio (CATAR), current liabilities to total asset ratio (CLTAR), and debt to asset ratio (DTAR) to the firm's performance by looking at firm's value, that is, Tobin Q (TQ) and profitability, that is, return on asset (ROA) and return on invested capital (ROIC). Applying correlations and multiple regression analysis, they concluded that there is a significant negative association between working capital variables with firm's performance.

Usama (2012) attempted to extend the findings of Raheman and Nasr (2007) regarding working capital management and its effect on profitability of Pakistani firms, using a sample of 18 food companies listed on Karachi Stock Exchange for a period of 5 years (2006-2010). Pooled least square regression was used. The results indicated a significant negative relationship between cash conversion cycle which was used as a measure of working capital management and firm's profitability. He concluded that, in line with the recommendation of Raheman and Nasr (2007), profitability in food sector can be enhanced by reducing cash conversion cycle.

Conversely, a number of arguments could arise in favour of a direct and positive relationship between a longer cash conversion cycle and profitability. For example, Shin and Soenen (1998) argue that a firm could have larger sales volume with a generous credit policy that extends cash cycle. In that case, the longer cash conversion cycle may result in higher profitability. Similary, Deloof (2003) says that a longer cash conversion cycle might increase profitability because it leads to higher sales. Lyroudi and Lazaridis (2002) concur to this line of reasoning. However, Loveday (1970) states that high sales volume does not necessarily equate to high profitability and further argues that a firm losing money each time it sells cannot make it up in volume. Besides, corporate profitability might as well decrease with

cash conversion cycle if the costs of higher investment in working capital rise faster than the benefits of holding more inventories and/or granting more trade credits to customers.

An empirical study from Ghana by Samuel and Benjamin (2011) focused on the working capital management practices and profitability of Banks. The study covers all commercial banks in Ghana, over a ten-year period (1999-2008). Using panel data methodology, within the framework of the random effects model the study concludes that while cash operating cycle has a significantly positive relationship with bank profitability, like debtors' collection period, creditors' payment period exhibits a significantly opposite relationship with profitability. The study also adds that credit risk and exchange risk significantly increases bank profitability similar to that of bank capital structure and size. The study further reports 43 that listed banks appear to perform poorly as compared to unlisted banks. They conclude by advising banks to improve their cash conversion cycle, they are to do so cautiously since the level of interest income earned by banks depends largely on the level of credit available to them for lending.

Akindele and Odusina (2015) examined the relationship between working capital management and firms' profitability of twenty five Nigerian quoted companies for the seven-year period 2005-2011. Data used in the study were sourced from audited financial statements of the companies. Multiple Regression analysis was used to analyze the data and results showed a negative relationship between working capital management (Cash Conversion Cycle) and firm profitability (ROA).

Uremadu et al (2012) also tried to determine the effect of working capital management and liquidity on profitability of listed firms in the Nigerian productive sector for a period of 2 years (2005-2006). The micro-data were analyzed using descriptive statistics and ordinary least square (OLS) methodology. They discovered a negative relationship between cash

conversion cycle, creditors' payment period and profitability but a positive relationship between inventory conversion period, debtors collection period and profitability. It was also discovered that cash conversion cycle is the most significant precision variables in influencing profits and leads corporate profitability in Nigeria.

2.4.2 Debtor Turnover, Inventory Turnover and Profitability

Ganesan (2007) analyzed working capital management efficiency and profitability and liquidity of firms in Telecommunication equipment industry in USA, using a sample of 349 companies for a period of 7 years (2001-2007). Using correlation and regression analysis, the results indicated that there is a significant negative relationship between cash conversion cycle which was used as a measure of working capital management and firm's profitability. Hence, working capital management efficiency is negatively associated with profitability and liquidity.

In the Pakistan context, Raheman and Nasr (2007) studied a sample of 94 Pakistani companies listed on the Karachi Stock Exchange for a period of 6 years from 1999-2004. They specifically examined the effects of different variables of working capital management including average collection period, inventory turnover in days, average payment period, and the cash conversion cycle on Profitability. The results of this study showed that there is a strong negative relationship between the above mentioned variables of working capital management and companies' profitability.

Afza and Nazir (2007) investigated the relationship between working capital policies and profitability for 208 companies listed on KSE for a period of 7 years (1998 to 2005). By using regression analysis it was found that there is an inverse relationship between companies' profitability and working capital policies using debtor turnover ratio which is

consistent with the study of Carpenter and Johnson (1983) and was found that there is no any significant relation between firms' risk and level of current assets and current liabilities.

Hayajneh and Yassine (2011) investigated the relationship between working capital management efficiency and profitability of Jordanian manufacturing firms using a sample of 53 companies listed on Amman Stock Exchange for a period of 7 years (2000-2006). The data were analyzed through the use of descriptive statistics, Pearson's correlation co-efficient, ordinary least squares (OLS) and two stage least square regression models. The study found a strong negative relationship between firm's profitability and average receivables collection period, average inventory conversion period, average payment period and cash conversion cycle.

In similar vein, Qazi, Syed, Zaheer and Nadeem (2011) explored the impact of working capital management on firm's profitability in Pakistan using a sample of 20 companies in the automobile and oil and gas sectors for a period of 5 years (2004-2009). The pooled data were analyzed using regression and correlation techniques assisted by E-views software. The result revealed that Inventory turnover period which represents working capital management has a strong and positive relationship with profitability. Sohail (2011) studied the relationship between working capital management and profitability of cement industry in Pakistan using a sample of 14 companies listed on Karachi Stock Exchange for a period of 6 years (2004-2009). The data were analyzed using correlation co-efficient and multiple regression analysis. The result indicated that there is positive relationship between working capital management and profitability in the specific context of cement industry in Pakistani.

Deloof (2003), using a sample of 1,009 large Belgian non-financial companies during the period 1992-1996, with correlation and regression tests, found a significant negative relationship between gross operating income and the number of days of accounts receivable,

inventories and accounts payable of Belgian companies. On the basis of these results, he suggests that managers could create value for their shareholders by reducing the number of days of receivables and inventories accounts to a reasonable minimum.

Napompech (2012) also implored the impact of working capital management on profitability in Thailand using a sample of 255 companies for a period of 3 years (2007-2009). Using regression analysis, the results revealed a negative relationship between cash conversion cycle, receivables collection period, inventory conversion period, average payment period and profitability. Therefore managers can increase the profitability of their firms by shortening the inventory conversion period and receivables collection period. However, they cannot increase profitability by lengthening the payables deferral period.

Quayyum (2012) investigated the relationship between working capital management and profitability of Bangladesh manufacturing companies listed on Dhaka Stock Exchange using a sample of 28 companies selected from four industries: food, pharmaceuticals, engineering and cement firms for a period of 5 years (2005-2009). Regression analysis was used to measure the relationship between the variables. The results showed that except for food industry, in the selected industries, working capital management have significant relationship on profitability.

Furthermore, Ajao and Nkechinyere (2012) examined the effect of working capital management on profitability of selected quoted manufacturing companies in Nigeria for a period of 5 years. Multivariate regression analyses were employed to test the research hypotheses. The result indicated that each working capital component affect firm's level of profitability at varying rates but these effects when pooled together are not significant.

Ojeani (2014) examined the impact of working capital management on the profitability of Pharmaceutical firms listed on the Nigerian Stock Exchange market. Correlation and ex-post facto research design were used in a sample of 5 Pharmaceutical firms. Secondary data for a period of 10 years (2002-2011) was used, and Ordinary Least Squares (OLS) multiple regression was employed in data analysis. The study found that working capital management (account receivables collection management, accounts payables management, inventory management, cash conversion cycle management, operating cash flow management) has a significant impact on the profitability of listed pharmaceutical firms in Nigeria

Ikpefan and Owolabi (2014) also made an empirical investigation of the relationship between working capital management and profitability using Nestle Nigeria Plc and Cadbury Nigeria Plc as case studies. They used correlation and regression analysis to analyse data. Quick ratio was used to measure liquidity, while 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. 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 current ratio, trade receivable collection and liquidity 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.

From the foregoing, it can be established that the empirical studies conducted as cited above are characterised with findings which are mixed and inconclusive. These may be as a result of so many factors ranging from the variables in use and the methodology adopted. However, this study is unique in that it empirically examined the most crucial working capital components together. Specifically, the study investigated the impact of debtor's turnover, cash conversion cycle, inventory turnover on the profitability (measured by return on asset and return on equity) of listed conglomerate firms in Nigeria.

2.5 Theoretical Framework

Separation of ownership from control in the modern businesses came to be in order to achieve effective utilization of resources for the purpose of attaining the ultimate goal of desired profit maximization. This is referred to as the agent-principal relationship.

According to this theory, managers, as agents, are expected to manage the affairs of the corporate entity in the manner to maximize the value of the owners, the principals. The theory emphasizes that the managers are to manage the trust (business) given to them at the best interest of all the stakeholders. According to Fama and Jensen (1983), doubts about managerial effectiveness in utilization of firm resources to achieve the desired level of profit arises as a result of the separation of ownership from control in the modern enterprise; the agent-principal relationship and the consequential conflict of interest have emerged.

In the words of Robert, McNultry & Stiles (2005), one of the factors responsible for the agency problem in the corporate world by the managers is the self-serving interest and incentives. They further say that the interest of the management usually conflict with that of the owners in which the managers try to meet their goals at the expense of the firm, and this affects the performance in many ways. Fama and Jensen (1983) held that proper monitoring and control could effectively reduce the agency cost caused by separation between ownership and control. That is, the efficient resources utilization can be achieved.

It is therefore of great importance to mention here that working capital is one of the areas that require adequate attention bearing in mind its direct relationship with the liquidity and overall profitability of firms. Stephen (2012) held that from the agency perspective, working capital is a managerial activity that managers are expected to efficiently monitor and manage so as to make profit and maximize owners' value. The agency theory therefore emphasizes that

managers, being the arrowhead in the relationship, are to manage working capital in accordance with the prescription. Thus, it would be expected that firms would invest in the working capital, finance working capital, monitor factors that influence working capital, manage cash, accounts receivable, inventory, account payable, the cash conversion cycle, and measure and analyze performance to ensure that the long term (fixed) assets are utilized effectively and efficiently (Eisenhardt,1989). Shin and Soenen (1998) maintained that efficient working capital management is very important for creating value for the shareholders. Also according to Maness (1994), liquidity is affected by cash, credit, inventory and accounts payable that form part of the overall cash flow of a business. A business that considers decreasing its levels of cash by carrying too much credit endangers its liquidity (Gitman, 1997). He added that declining levels of liquidity may result in insolvency and eventually bankruptcy as the businesses liabilities exceed its assets except if remedied.

Tully (1994) says that to satisfy the requirement of efficiency, working capital management seeks to ensure that the investment in working capital components is neither too little nor large. The former could give rise to illiquidity, stock out and loss of sales; whereas the latter amounts to waste.

Therefore, this study is underpinned by the agency theory from the perspective of efficiency and prescription. This is because the theory gives a framework and a link that is logical between the management of working capital and profitability.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter details the methodology adopted for the study. It is more or less a framework for the conduct of the study. The research design normally depends not only on the type of research but also the purpose of a particular research. Furthermore, it shows the technique and procedures used in the study and this consists of: research design, population of the study, sample size, sampling technique, method of data analysis, technique of data analysis and variable definition and measurement.

3.2 Research Design

The study adopted correlation research design. The research design is considered most appropriate because it describes the statistical relationship between two or more variables, and also estimates the impact of independent variables on the dependent variables.

3.3 Population and Sample of the Study

The population of the study consists of the 6 conglomerates companies listed on the floor of Nigerian Stock Exchange as at 31st December, 2015. Table 3.3.1 presents the population and sample of the study.

Table 3.1: Population and Sample of the study

S/NO	COMPANIES	YEAR OF LISTING
1	A.G Leventis & Companies Plc	1978
2	Chellarams Plc	1977
3	John Holt Plc	1974
4	SCOA Nigeria Plc	1977
5	UAC Nigeria Plc	1974
6	Transcorp Nigeria Plc	2005

(Source: Nigerian Stock exchange fact book 2014/2015)

A total of six companies (A.G Leventis & Company Plc, John Holt Plc, Chellarams Plc, UAC Nigeria Plc SCOA Nigeria plc and Transcorp Nigeria Plc) which is the whole of the population is being used as sample size since there is the availability of their data. It should be noted that each company must have delivered its annual report for the year 2006 to 2015. As such, the study adopts census approach to study all the six listed conglomerate firms on the floor of the Nigerian Stock Exchange.

3.4 Sources and Method of Data Collection

The study used secondary data from secondary source; that is the financial statements of all the sampled firms of the study for the period of ten years (2006-2015). The use of secondary data in this study is informed by the fact that the study is based on the quantitative research methodology that requires quantitative data to test the research hypotheses. The data of the study have been collected from audited financial statements of the listed conglomerate firms. The various data were sourced based on the parameters of the variables, and the respective ratios or percentages taken.

3.5 Technique of Data Analysis

A panel data multiple regression analysis was used as the tool of analysis. The use of panel data regression methodology in this study is based on the fact that the data used are cross-sectional and time series. This was also used by Ikpefan and Owolabi (2014) and Ganesan (2007), too.

3.6 Variable Measurement and Model Specification

3.6.1 Variable Measurement

The variables used are Return on Assets, Debtor turnover, inventory turnover and cash conversion circle. Table 3.6 presents the variable measurement.

TABLE 3.6

VARIABLE	DEFINITION	MEASUREMENT	SOURCE
Dependent Variable: ROA	Return on Assets	It is measured by net income to average total assets	Lazaridis & Tryfonidis (2006) Ajao & Nkechinyere (2012)
ROE	Return on Equity	Measured by net income to total equity	Ikpefan, O. & Owolabi F (2014)
Independent Variable: (i) DTR	Debtors Turnover Ratio	It is measured as the ratio of net sales to average debtors	Uramadu (2012), Ikpefan & Owolabi (2014)
Independent Variable: (ii) ITR	Inventory Turnover Ratio	It is measured as the ratio of cost of goods sold to average inventory	Uramadu (2012), Napompech (2012),
Independent Variable: (iii) CCC	Cash Conversion Circle	It is measured as average collection period plus inventory turnover in days minus average payment period	Usama (2012), Rehaman & Nasr (2007), Alipour (2011), Kurawa (2011)
Control variable: (iv) SZ	Size of the firm: natural logarithms of sales (NLS)	Measured as annual sales multiplied by natural sale	Raheman & Nasr (2007),
control Variable: (v) LEV	Leverage	Measured as the total debt to total assets	Rehaman & Nasr (2007)

3.6.2 Model Specification

In order to examine the relationship between working capital and profitability of conglomerate industry, two linear regression models are built as follows:

MODEL1: $ROA_{it} = \alpha + \beta_1 DTR_{it} + \beta_2 ITR_{it} + \beta_3 CCC_{it} + \beta_4 LEV_{it} + \beta_5 SZ_{it} + eit$ (Ganesan 2007, (Deloof, 2003)

$MODEL2: ROE_{it} = \alpha + \beta_1 DTR_{it} + \beta_2 ITR_{it} + \beta_3 CCC_{it} + \beta_4 LEV_{it} + \beta_5 SZ_{it} + eit$ (Ikpefan, O. & Owolabi F., 2014)

Where: ROA	=	Return on assets
ROE	=	Return on equity
DTR	=	Debtors turnover ratio
ITR	=	Inventory turnover ratio
CCC	=	Cash conversion cycle
SZ	=	Firm size
LEV	=	Leverage
a	=	intercept
a1, a_2, b_3	=	Coefficient of ROA, ROE, DTR, ITR, SZ, LEV and CCC
e	=	Error term

CHAPTER FOUR
DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

In this chapter, the results obtained from the analysis of data collected for the study are presented and discussed. The chapter begins with the presentation and analysis of the descriptive statistics of the variables of the study. It is followed by the analysis and discussion of results of the inferential statistics from which relevant inferences were drawn and the test of hypotheses formulated for the study carried out. The chapter ends with discussions of major findings and also their policy implications.

4.2: Descriptive Statistics

Table 4.2: Descriptive Statistics of the Variables

VARIABLES	**Mean**	**SD**	**Min**	**Max**	**Obs**
ROE	-0.783	40.143	-268.25	54.33	60
ROA	2.450	6.793	-17.175	25.234	60
DTR	23.066	15.126	3.589	61.453	60
CCC	60.830	33.810	3.076	139.53	60
ITR	21.817	11.017	3.646	55.718	60
LEV	57.705	16.746	17.51	94.27	60
SZ	6.787	0.567	5.9	8.04	60

Source: STATA OUTPUT (Appendix)

Table 4.2 revealed that on average, the firms included in our sample generate Return on Equity (ROE) of about -0.783 and a standard deviation of 40.143. This means that the value of the ROE can deviate from mean to both sides by 40.143. The maximum and minimum values of ROE are 54.33 and -268.25 respectively. However, a Return on Asset (ROA) of 2.450 was generated on the average, with a minimum and maximum value of -17.175 and 25.234 respectively. The descriptive statistics results also show that the average debtors' turnover ratio (DTR) of the sampled conglomerate firms is 23.066, with standard deviation of 15.125 and minimum value of 3.589 and 61.453 as the maximum value. The standard

deviation of 15.126 implies that the data deviate from both side of the mean value by 15.13%, implying that the data is moderately dispersed from the mean because the standard deviation is high.

Moreover, the results from the table show that the average cash conversion cycle (CCC) of the sampled conglomerate firms is 60.83 days, with standard deviation of 33.810 and minimum value of 3.076 and 139.537 days as the maximum value respectively. This means that the average days of cash conversion cycle of the sampled firms is 60day; with the maximum days of 139days and minimum of 3days. The standard deviation of 33.810 implies that the data deviate from both side of the mean value by 33.81%, implying that the data is moderately dispersed from the mean. The results also indicate that the average inventory turnover (ITR) of the sampled conglomerate firms is 21.817 with standard deviation 11.017; the minimum and maximum value of 3.646 and 55.718 respectively. The standard deviation of 11.017 implies that there is no substantial dispersion the mean.

Table 4.2 also shows that the average leverage (LEV) of the sampled conglomerate firms is 57.705 with standard deviation of 16.746 and minimum value of 17.51 and 94.27 as the maximum value. This indicates that more than 50% of the firms' total assets is financed by debt. Lastly, the results indicate that the average size (SZ) of the sampled conglomerate firms is 6.787, with standard deviation of 0.567, and minimum and maximum value of 5.9 and 8.04 respectively. The standard deviation of 0.567 implies that the data deviate from both side of the mean value by 0.567%.

4.3. Correlation Analysis

In this section, the correlation Coefficients of the variables of the study are presented in Table 4.3 as follows:

Table 4.3: Correlation Matrix of Dependent and Independent Variables

Variables	ROE	ROA	DTR	CCC	ITR	LEV	SZ
ROE	1						
ROA	0.7477 (0.0000)	1					
DTR	0.0129 (0.9223)	-0.1793 (0.1704)	1				
CCC	0.1127 (0.3913)	0.2039 (0.1182)	0.3168 (0.0137)	1			
ITR	0.0172 (0.8964)	0.0325 (0.8051)	0.0593 (0.6529)	0.2028 (0.1202)	1		
LEV	-0.4052 (0.0013)	-0.4636 (0.0002)	0.2865 (0.0265)	0.0815 (0.5361)	0.2223 (0.0877)	1	
SZ	0.0290 (0.8260)	0.0078 (0.9526)	-0.1358 (0.3007)	-0.0193 (0.8837)	-0.1119 (0.3946)	-0.4330 (0.0005)	1

P-Values in Parentheses

Source: STATA OUTPUT (Appendix)

Table 4.3 presents the correlation results between working capital management variables (debtors turnover ratio, cash conversion circle and inventory turnover ratio) and the profitability (Return on Equity and Return on Assets) of the listed conglomerate firms in Nigeria. It can be seen from the results that there is a positive relationship between ROE and DTR from the correlation coefficient of 0.0129 which is not significant from the p-value of 0.9223. This relationship suggest that the lower the DTR, the lower the profitability. Furthermore there is a negative relationship between debtors' turnover ratio (DTR) of the sampled conglomerate firms and return on assets (ROA) from the correlation coefficients of -0.1793 which is not significant from the p-value of 0.1704. This relationship suggests that the higher the debtors turnover ratio, the lower the profitability.

The table on the other hand shows a positive relationship between cash conversion cycle (CCC) of the sampled conglomerate firms' return on equity (ROE) and return on assets

(ROA) from the correlation coefficient of 0.1127 and 0.2039 respectively. None of the relationship is statistically significant from the p-values of 0.3913 and 0.1182 respectively. This relationship suggests that the profitability of the listed conglomerate firms in Nigeria increases with longer cash conversion cycle. Moreover, the results from the table indicate an insignificant positive relationship between inventory turnover ratio (ITR) and return on equity (ROE) and return on assets (ROA) of the listed conglomerate firms in Nigeria from the correlation coefficient of 0.0172 and 0.0325 respectively. The p-values are 0.8964 and 0.8050 for ROE and ROA respectively. This relationship suggests that profitability of the listed conglomerate firms in Nigeria increases as inventory turnover increases but not significantly. There is also a negative relationship between leverage (LEV) and return on Equity (ROE)/ return on assets (ROA) of the firms considering the correlation coefficients of -0.4052 and -0.4635 which are both statistically significant at 1% level of significance (p-value 0;0013 and 0.0002 respectively). Lastly, the table also shows an insignificant positive relationship between firm size (SZ) of the sampled firms and return on equity (ROE)/ return on assets (ROA) from the correlation coefficients of 0.290 and 0.0078 which are not statistically significant at all levels of significance (p-values 0.8260 and 0.9527 respectively).

4.4. Regression Results

This section presents the regression results of the models of the study. The results are presented in table 4.4.1 and 4.4.2 below.

4.4.1: Summary of Ordinary Least Square Regression Results

Table 4.4.1a:Model 1: $ROA_{it} = \alpha + \beta_1 DTR_{it} + \beta_2 ITR_{it} + \beta_3 CCC_{it} + \beta_4 LEV_{it} + \beta_5 SZ_{it} + e$

Variables	Statistics	P-Values
R^2	0.3458	
F-Statistics	5.71	0.0003
Mean VIF	1.21	
Hettest: Chi2	0.83	0.3632

Source: STATA OUTPUT (Appendix)

Table 4.4.b: Model 2: $ROE_{it} = \alpha + \beta_1 DTR_{it} + \beta_2 ITR_{it} + \beta_3 CCC_{it} + \beta_4 LEV_{it} + \beta_5 SZ_{it} + e$

Variables	Statistics	P-Values
R^2	0.2286	
F-Statistics	3.20	0.0133
Mean VIF	1.21	
Hettest: Chi2	101.49	0.0000

Source: STATA OUTPUT (Appendix)

The time-series and crossed-sectioned nature of the panel data usually led to the production of various tests. In this study, the relevant tests were carried out alongside other regression models (Fixed Effects and Random Effects models) to confirm the reliability or otherwise of the OLS. In choosing most appropriate model for the study, two important tests were conducted for the two models.: Hausman Specification Test and Lagrangian Multiplier Test. For both models, the Hausman specification test suggests that the random effect regression model is the most appropriate model for the study as evidenced by Hausman Chi2 of 1.8 and 1.7 with the p-value of 0.8674 and 0.8806 respectively.

However, the Lagrangian Multiplier Test for random effects test indicates that there is no statistically significant difference (variances) in the panel from Chi2 of 0.00 with P-value of 1.0000 (being the same value for the both models), and therefore, Ordinary Least Square (OLS) can be used for the study.

Tables 4.4.1a and 4.4.1b show that the independent variables of the study explained 34.58% and 22.86% of the total variations in the dependent variables (ROE and ROA) of the sampled firms respectively. The tables also show that the model is fitted as evident by the F-Statistics: 5.71 with p-value 0.0003 which is significant at 1% for Model1 and 3.20 with p-value 0.0133 wihich is significant at 5% levels of significance for Model2. However, in our Model1, the result indicates that there is absence of heteroskedasticity as evidenced by the Breuch Pagan/Cook-Weisberg test for heteroskedasticity Chi2 of 0.83 with p-value of 0.3632 which

is not significant at all level. While the Model2 indicates the presence of heteroskedasticity evidenced by Breuch Pagan/Cook-Weisberg test for heteroskedasticity Chi2 of 101.49 with p-value of 0.0000 which is significant at 1% level of significance. However, the Lagrangian Multiplier Test (on Model2) for random effects test indicates that there is no statistical significant difference (variances) in the panel from Chi2 of 0.00 with P-value of 1.0000. Therefore, the classical assumption of constant variance in the residuals is satisfied and hence, the study used Ordinary Least Square (OLS). Also, the result from the table indicates the absence of the perfect multicolinearity among the explanatory variables, as shown by the mean variance inflation factor (VIF) of 1.21 for both Model1 and Model2. The decision criterion for the Variance Inflation Factor is that a value of 10 and above implies the presence of perfect multicollinearity.

4.5. Hypotheses Testing

The hypotheses formulated for the study are tested in this section. Table 4.5 presents the coefficients of the variables of the study from which the hypotheses are tested.

Table 4.5: OLS Regression Coefficients

Table 4.5a: Model 1: $ROA_{it} = \alpha + \beta_1 DTR_{it} + \beta_2 ITR_{it} + \beta_3 CCC_{it} + \beta_4 LEV_{it} + \beta_5 SZ_{it} + e$

Variables	Coefficients	T-statistics	P-Values
DTR	-0.0632	-1.16	0.250
CCC	0.0548	2.30	0.025
ITR	0.0524	0.74	0.464
LEV	-0.2311	-4.43	0.000
SZ	-2.9158	-1.99	0.052
CONSTANT	32.5513	2.81	0.007

Source: STATA OUTPUT (Appendix)

Table 4.5b: Model 2: $ROE_{it} = \alpha + \beta_1 DTR_{it} + \beta_2 ITR_{it} + \beta_3 CCC_{it} + \beta_4 LEV_{it} + \beta_5 SZ_{it} + e$

Variables	Coefficients	T-statistics	P-Values
DTR	0.2819	0.81	0.422
CCC	0.1203	0.79	0.435
ITR	0.3306	0.72	0.472
LEV	-1.2982	-3.88	0.000
SZ	-12.6820	-1.35	0.183
CONSTANT	139.1747	1.87	0.066

Source: STATA OUTPUT (Appendix)

From table 4.5a and 4.5b presented above, it can be noticed that at least more significant relationships exist between the independent variables and ROA than in ROE. This implies that ROA is a better performance proxy than ROE. In addition, according to Westaham (2009) ROA is a preferred measure of probability. This is because, ROE is a component of ROA. This study therefore based its decisions on ROA

Hypothesis 1

From the result in table 4.5a above, it can be observed that debtors' turnover ratio (DTR) has an insignificant negative impact on the profitability (ROA) of the listed conglomerate firms listed in Nigeria with a coefficient of -0.0632 and a p-value 0.250. Based on this, the study fails to reject the null hypothesis one (H_{01}) which states that debtors' turnover ratio has no significant impact on the performance of listed conglomerate firms in Nigeria. This finding is consistent with Ganesan (2007) but contradicts Quayyum (2012).

Hypothesis 2

Moreover, the table 4.5a also indicates that cash conversion cycle (CCC) was found to be positively and significantly influencing the profitability (ROA) of the listed conglomerate firms in Nigeria from the coefficient of 0.055 which is significant at 5% level of significance (p-value of 0.025). This suggests that cash conversion cycle significantly drives the profitability of the listed conglomerate firms in Nigeria during the period of study. Based on

this, the study rejects the null hypothesis two (H_{02}) which states that cash conversion cycle has no significant impact on the performance of listed conglomerate firms in Nigeria. This result is in line with Hayajneh and Yassine (2011), Ojeani (2014) and contradicts the result of Afza and Nazir (2007)

Hypothesis 3

The table also shows that inventory turnover ratio (ITR) has an insignificant positive impact on the profitability (ROA) of the listed conglomerate firms in Nigeria from the coefficient of .0524045 which is not significant given the p-value of 0.464. This suggests that inventory turnover ratio of the listed conglomerate firms in Nigeria has an insignificant positive impact on the profitability of the listed conglomerate firms in Nigeria during the period of the study. Based on this, the study fails to reject the null hypothesis three (H_{03}) which states that inventory turnover has no significant impact on the performance of listed conglomerate firms in Nigeria. This result is supported by the conclusion reached by Ajao and Nkechinyere (2012) and Qazi *et al* (2011). However, it is in contradiction with Ojeani (2014).

Leverage (LEV), as shown in the table, has a negative impact on the ROA of the sample conglomerate firms from the coefficient of -0.231 which is significant at 1% level of significance (p-value 0.000). This result contradicts apriori expectation. One of the reasons for this may be that the firms are paying high interest on the debt obtained.

Finally, the table shows that firm size (SZ) has a significant negative impact on the profitability (ROA) of the listed conglomerate firms in Nigeria from the coefficient of -2.915 which is significant at 5% level of significance (p-value 0.052). This negative relationship is also in contradiction to what is expected. It may be that the firms are in possession of some assets that are idle, or not put into effective use.

4.6 Policy Implications

This study investigates the impact of working capital management on the profitability of listed conglomerate firms in Nigeria. The results and findings from the analysis have implications to policy makers and management of the listed conglomerate in Nigeria. The findings implied that if policy makers adopt adequate and effective policies in respect of working capital management, profitability and the liquidity improvement could be achieved. This will go a long way to giving way to stability to the economic condition of the Nigerian state.

Moreover, the findings implied that restrictiveness in the trade credit policy (by the listed conglomerate firms' management) to customers with less time to make payments will improve the profitability.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This study investigates the impact of working capital management on the profitability of listed conglomerate firms in Nigeria using a sample of 6 companies. The study covers a 10-year period (2006-2015) and used correlation research design and OLS regression analysis. Based on the tests conducted on the data collected and the analysis of the results, the study found: (i) a significant relationship between cash conversion cycle and the profitability of the sampled firms; (ii) no significant relationship between debtor turnover and profitability of the sampled firms; and finally no significant relationship between inventory turnover and the profitability of listed conglomerate firms in Nigeria. Moreover, working capital management explained 34.58% of the variations in the profitability of the listed conglomerate firms in Nigeria during the period under review.

5.2 Conclusion

Based on the key findings of this research, the study concludes that while significant relationship exists between a component of the working capital and profitability of the sampled firms, some of them do not have significant relationship. Specifically, cash conversion cycle has a significant relationship with the profitability of listed conglomerate firms in Nigeria during the period under review. However, there is no significant relationship between debtor turnover and inventory turnover and profitability of the listed conglomerate firms in Nigeria during the period under review.

5.3 Recommendations

In line with the findings and conclusions from this study, the following recommendations are made:

(1) The managers of conglomerate firms in Nigeria should give adequate attention to working capital management component, especially, cash conversion cycle, and emphasize on an optimal working capital levels in their companies bearing in mind the positive significant relationship between it (cash conversion cycle) and profitability;

(2) The management of the listed conglomerate firms in Nigeria is expected to restructure the credit policy and set up a very sound mechanism to help in monitoring the application of the policy in order to ensure that the overall goal of the improved profitability and shareholders' wealth maximization are achieved and sustained.

(3) The managements of conglomerate firms should employ experts in accounting and finance to help establish and monitor their required liquidity position through efficient working capital.

5.4 Limitation

This study is limited to the listed conglomerate firms on the Nigerian Stock Exchange. Therefore, the findings are only applicable to them and not to other firms that are not quoted. In other words, the findings in this study could only be generalised to the listed conglomerate firms so covered by it.

Moreover, this study only used Return on Equity and Return on Assets as dependent variables. While the independent variable used are Debtor's Turnover, Inventory Turnover and Cash Conversion Cycle. This study is also limited to fifteen year (2006-2015) financial reports of the sampled firms.

5.5 Area of Further Study

The limitation of the study has prompted suggestions for further research. It is expected that future research would focus on investigating how various working capital management components impact on profitability of other firms in other industries that are not conglomerate. Also, other performance measures like Earnings Per Share (in addition to Return on Assets and Return on Equity) cab also be introduced as proxies for profitability.

Moreover, the period of study for this research is ten years (2006-2015). A future study may explore more years, say, fifteen to twenty years of the financial reports of the firms.

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APPENDIX

```
. summarize roe roa dtr ccc itr lev size
```

Variable	Obs	Mean	Std. Dev.	Min	Max
roe	60	-.7836666	40.14326	-268.25	54.33
roa	60	2.450333	6.793614	-17.18	25.23
dtr	60	23.066	15.12542	3.59	61.45
ccc	60	60.83133	33.81041	3.08	139.54
itr	60	21.81683	11.01687	3.65	55.72
lev	60	57.70483	16.74609	17.51	94.27
size	60	6.787	.5665037	5.9	8.04

```
. pwcorr roe roa dtr ccc itr lev size, star (0.05) sig
```

	roe	roa	dtr	ccc	itr	lev	size
roe	1.0000						
roa	0.7477*	1.0000					
	0.0000						
dtr	0.0129	-0.1794	1.0000				
	0.9223	0.1702					
ccc	0.1127	0.2038	0.3168*	1.0000			
	0.3913	0.1183	0.0137				
itr	0.0172	0.0325	0.0593	0.2028	1.0000		
	0.8964	0.8051	0.6529	0.1202			
lev	-0.4052*	-0.4636*	0.2865*	0.0815	0.2223	1.0000	
	0.0013	0.0002	0.0265	0.5361	0.0877		
size	0.0290	0.0078	-0.1358	-0.0193	-0.1119	-0.4330*	1.0000
	0.8260	0.9526	0.3007	0.8837	0.3946	0.0005	

```
. regress roa dtr ccc itr lev size
```

Source	SS	df	MS	Number of obs =	60
				F(5, 54) =	5.71
Model	941.463867	5	188.292773	Prob > F =	0.0003
Residual	1781.23528	54	32.9858385	R-squared =	0.3458
				Adj R-squared =	0.2852
Total	2722.69915	59	46.1474432	Root MSE =	5.7433

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
dtr	-.0631606	.0543585	-1.16	0.250	-.1721428	.0458216
ccc	.0548359	.0238132	2.30	0.025	.0070933	.1025785
itr	.0524045	.0710844	0.74	0.464	-.0901113	.1949202
lev	-.2310826	.0522079	-4.43	0.000	-.3357531	-.1264121
size	-2.915753	1.465161	-1.99	0.052	-5.853225	.0217181
_cons	32.55129	11.57732	2.81	0.007	9.340155	55.76242

```
. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of roa

         chi2(1)      =     0.83
         Prob > chi2  =   0.3632

. vif
```

Variable	VIF	1/VIF
lev	1.37	0.731435
size	1.23	0.811520
dtr	1.21	0.827017
ccc	1.16	0.862486
itr	1.10	0.911588
Mean VIF	1.21	

```
. xtreg roa dtr ccc itr lev size, fe
```

```
. xtreg roa dtr ccc itr lev size, fe

Fixed-effects (within) regression               Number of obs      =         60
Group variable: id                              Number of groups   =          6

R-sq:  within  = 0.2604                         Obs per group: min =         10
       between = 0.5805                                        avg =       10.0
       overall = 0.3076                                        max =         10

                                                F(5,49)            =       3.45
corr(u_i, Xb)  = -0.0747                        Prob > F           =     0.0095

------------------------------------------------------------------------------
         roa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         dtr |  -.0604088   .0873649    -0.69   0.493    -.2359751    .1151574
         ccc |   .0524143   .0319777     1.64   0.108    -.0118473     .116676
         itr |  -.0509636    .116276    -0.44   0.663    -.2846289    .1827017
         lev |   -.214041   .0761672    -2.81   0.007    -.3671047   -.0609774
        size |  -1.665098   3.124098    -0.53   0.596    -7.943208    4.613012
       _cons |   25.41869   20.75732     1.22   0.227     -16.2947    67.13209
-------------+----------------------------------------------------------------
     sigma_u |   1.866707
     sigma_e |  5.9106385
         rho |  .09069685   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(5, 49) =     0.40                 Prob > F = 0.8484

. est store fe

. xtreg roa dtr ccc itr lev size, re

Random-effects GLS regression                   Number of obs      =         60
Group variable: id                              Number of groups   =          6

R-sq:  within  = 0.2462                         Obs per group: min =         10
       between = 0.9345                                        avg =       10.0
       overall = 0.3458                                        max =         10

                                                Wald chi2(5)       =      28.54
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =     0.0000

------------------------------------------------------------------------------
         roa |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         dtr |  -.0631606   .0543585    -1.16   0.245    -.1697013    .0433801
         ccc |   .0548359   .0238132     2.30   0.021     .0081628    .1015089
         itr |   .0524045   .0710844     0.74   0.461    -.0869185    .1917274
         lev |  -.2310826   .0522079    -4.43   0.000    -.3334082    -.128757
        size |  -2.915753   1.465161    -1.99   0.047    -5.787417   -.0440901
       _cons |   32.55129   11.57732     2.81   0.005     9.860154    55.24242
-------------+----------------------------------------------------------------
     sigma_u |           0
     sigma_e |  5.9106385
         rho |           0   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

```
. hausman fe re
```

	Coefficients			
	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
dtr	-.0604088	-.0631606	.0027518	.0683942
ccc	.0524143	.0548359	-.0024216	.0213426
itr	-.0509636	.0524045	-.1033681	.0920169
lev	-.214041	-.2310826	.0170416	.0554597
size	-1.665098	-2.915753	1.250655	2.759219

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(5) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 1.87
Prob>chi2 = 0.8674

```
. xttest0
```

Breusch and Pagan Lagrangian multiplier test for random effects

roa[id,t] = Xb + u[id] + e[id,t]

Estimated results:

	Var	sd = sqrt(Var)
roa	46.14744	6.793191
e	34.93565	5.910639
u	0	0

Test: Var(u) = 0
chibar2(01) = 0.00
Prob > chibar2 = 1.0000

.

```
. regress roe dtr ccc itr lev size
```

Source	SS	df	MS	Number of obs	=	60
				F(5, 54)	=	3.20
Model	21737.3369	5	4347.46738	Prob > F	=	0.0133
Residual	73340.0808	54	1358.14964	R-squared	=	0.2286
				Adj R-squared	=	0.1572
Total	95077.4177	59	1611.48166	Root MSE	=	36.853

roe	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
dtr	.2819873	.3488014	0.81	0.422	-.4173174	.981292
ccc	.1202696	.1528004	0.79	0.435	-.1860767	.4266159
itr	.3305876	.4561378	0.72	0.472	-.5839135	1.245089
lev	-1.298297	.3349993	-3.88	0.000	-1.96993	-.6266637
size	-12.68207	9.401467	-1.35	0.183	-31.53088	6.166738
_cons	139.1747	74.28795	1.87	0.066	-9.76369	288.1131

```
. vif
```

Variable	VIF	1/VIF
lev	1.37	0.731443
size	1.23	0.811519
dtr	1.21	0.827035
ccc	1.16	0.862474
itr	1.10	0.911564
Mean VIF	1.21	

```
. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of roe

         chi2(1)      =   101.49
         Prob > chi2  =   0.0000
```

```
. xtreg roe dtr ccc itr lev size, fe

Fixed-effects (within) regression               Number of obs      =        60
Group variable: id                              Number of groups   =         6

R-sq:  within  = 0.1989                         Obs per group: min =        10
       between = 0.5543                                        avg =      10.0
       overall = 0.2106                                        max =        10

                                                F(5,49)            =      2.43
corr(u_i, Xb)  = -0.4331                        Prob > F           =    0.0478

------------------------------------------------------------------------------
         roe |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         dtr |   .5467036   .5601518     0.98   0.334    -.5789637    1.672371
         ccc |    .166334   .2050172     0.81   0.421    -.2456635    .5783315
         itr |   .0092036   .7454703     0.01   0.990    -1.488875    1.507282
         lev |  -1.476313   .4883277    -3.02   0.004    -2.457644   -.4949817
        size |  -20.65939   20.02906    -1.03   0.307    -60.90929    19.59051
       _cons |   201.6926   133.0785     1.52   0.136    -65.73861    469.1238
-------------+----------------------------------------------------------------
     sigma_u |  10.744687
     sigma_e |  37.894268
         rho |  .07441441   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(5, 49) =     0.41                 Prob > F = 0.8363
```

```
. xtreg roe dtr ccc itr lev size, re

Random-effects GLS regression                   Number of obs      =        60
Group variable: id                              Number of groups   =         6

R-sq:  within  = 0.1914                         Obs per group: min =        10
       between = 0.7885                                        avg =      10.0
       overall = 0.2286                                        max =        10

                                                Wald chi2(5)       =     16.01
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0068

------------------------------------------------------------------------------
         roe |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         dtr |   .2819873   .3488014     0.81   0.419    -.4016509    .9656255
         ccc |   .1202696   .1528004     0.79   0.431    -.1792137    .4197528
         itr |   .3305876   .4561378     0.72   0.469     -.563426    1.224601
         lev |  -1.298297   .3349993    -3.88   0.000    -1.954884   -.6417103
        size |  -12.68207   9.401467    -1.35   0.177    -31.10861    5.744468
       _cons |   139.1747   74.28795     1.87   0.061    -6.427024    284.7764
-------------+----------------------------------------------------------------
     sigma_u |          0
     sigma_e |  37.894268
         rho |          0   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. est store re
```

. hausman fe re

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
dtr	.5467036	.2819873	.2647163	.4383009
ccc	.166334	.1202696	.0460644	.1366898
itr	.0092036	.3305876	-.321384	.5896307
lev	-1.476313	-1.298297	-.178016	.3553018
size	-20.65939	-12.68207	-7.977319	17.68546

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(5) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 1.76
Prob>chi2 = 0.8806

Breusch and Pagan Lagrangian multiplier test for random effects

roe[id,t] = Xb + u[id] + e[id,t]

Estimated results:

	Var	sd = sqrt(Var)
roe	1611.482	40.14326
e	1435.976	37.89427
u	0	0

Test: Var(u) = 0
chibar2(01) = 0.00
Prob > chibar2 = 1.0000