EFFECT OF WORKING CAPITAL MANAGEMENT ON THE FINANCIAL PERFORMANCE OF MANUFACTURING FIRMS IN NIGERIA

BY

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BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF PUBLIC ADMINISTRATION, FACULTY OF ADMINISTRATION, NASARAWA STATE UNIVERSITY, KEFFI, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTERS OF BUSINESS ADMINISTRATION (MBA)

DEPARTMENT OF BUSINESS ADMINISTRATION
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DECLARATION

I hereby declare that this project was written by me and it is the record of my own effort. It has not been presented or published anywhere by any person, institution or organization or used for any previous application for MBA or other qualifications. All sources of information used have been duly acknowledged by means of reference.

Signature:----------

Date:----------

CERTIFICATION

The project "Effect of Working Capital Management on the Financial Performance of Manufacturing Firms in Nigeria", meets the regulations governing the award of Masters in Business Administration (MBA), of the school of postgraduate Studies, Nasarawa State University, Keffi.

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DEDICATION

This work is dedicated to God Almighty

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ABSTRACT

The main objective of this study is to assess the impact of working capital management on the financial performance of manufacturing firms in Nigeria. Relevant literature on the topic were reviewed, looking at the importance of working capitals management as it affect the firm operation. The study adopted ex-post-facto research design involving trend analyses. The finding shows that, there is positive relationship between working capital management and firms performance. The study concluded that working capital is the lifeblood of a firm and its proper management will increase the level of firm performance. Finally the study recommended that, firms should hasten up collection of cash firm credit sales, this can assist the firm in achieving it main aim of profit making.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Working capital management is an embodiment of balancing liquidity with profitability usually from two different angles: cash (i.e. liquidity) management and inventory (i.e. stock) management in a bid to ensure that survival of the corporate enterprise is achieved. Cash pays no interest. In equilibrium all assets in the same risk class are priced to give the same expected marginal benefit. The benefit from holding treasury bills, for instance, is the interest that you receive; the benefit from holding cash is that it gives you a convenient store of value of liquidity. In equilibrium the marginal value of this liquidity is equal to the marginal value of the interest on an equivalent investment in Treasury bills (Brealey and Myers, 2016).

Furthermore, the marginal value of liquidity declines as you hold increasing amounts of cash. When you have only a small proportion of your assets in cash, a little extra can be extremely useful, when you have a substantial holding; any additional liquidity is not worth much. Therefore, as a financial manager you would want to hold cash balances up to the point where the marginal value of the interest is equal to the value of the interest forgone. Similarly, production managers must make a similar trade-off in the management of the inventories of raw materials they carry. They are not obliged to do so; they could simply buy materials day-by-day, as needed. But then they would pay higher prices for ordering in small quantities, and they would risk production delays if the materials were not delivered on time (Brealey and Myers, 2016).

But there is a cost to holding inventories. Interest is lost on the money that is tied up in inventories, storage must be paid for, and often there is spoilage and deterioration. Therefore production managers try to strike a sensible balance between the costs of holding too little inventory and those of holding too much (Brealey and Myers, 2016).

Uremadu (2012) and Brockington (2009) state that the principle requirement is that "stock levels should be optimal, that is, neither too large nor too small… and that we should be aware, in general terms, of the penalties for a business lying divergence

from the optimum". Therefore, the trade-off between the benefits and cost of liquidity is one essential part of cash management.

The other part is making sure that the collection and disbursement of cash are as efficient as possible. Cash is just another raw material that you require to carry on production. An efficient working capital management policy means that financial manager should equally keep an eye on the amount of cash he is keeping just as production manager does on the stock of inventories he is holding to maintain steady uninterrupted operations (Brealey and Myers, 2016). They further say that: A company's liquidity position is an important factor in determining the appropriate capital structure. Investors and creditors are interested in a company's all season ability to generate cash to service debt. Ability to service debt both under favorable as well as adverse circumstance is important. Of more concern to debt-holders is the extent the company is able to meet debt obligations under adverse conditions.

As a result, the firm faces tight credit terms. 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, and more especially in periods of intense financial crises as it exists at the global level today. An enlightened top management should therefore, maintain the right proportion of working capital on a continuous basis. Only then a proper functioning of business operations will be ensured. Sound financial and statistical techniques, supported by judgment, should be used to predict the quantum of working capital needed at different time periods (Pandey, 2014).

It should be well noted that a firm's net working capital position is not only important as an index of liquidity but it is also used as a measure of the firm's risk. Risk, in this regard, means chances of the firm being unable to meet its obligations on due date. The lender considers a positive net working capital as a measure of safety. All other things being equal, the more the net working capital a firm has, the less likely that it will default in meeting its current financial obligations. Lenders such as commercial banks insist that the firm should maintain a minimum net working capital position (Pandey, 2014).

1.2 Statement of the Problem

Deloof (2003) and Biger (2010) state that a longer cash conversion cycle might increase firm liquidity given that it leads to higher sales, primarily as a result of generous trade credit policy that allows customers to assess product quality before paying, as well as a result of a reduction in risk of stock-out, which essentially reduces the risk of business operations interruption. It is however not inconceivable that corporate liquidity may decrease as cash conversion cycle elongates, particularly if the costs of higher investment in working capital rise faster than the benefits of holding more inventory and/or granting more trade credit to customers.

The problem is, we do not know and we are not aware of any study that investigates whether or not working capital management has an impact on liquidity of Nigerian firms. In the same vein, we do not know if the impact (if any) of working capital management components on liquidity of Nigerian firms is positive or negative. Furthermore, we do not know how and the extent to which the impact changes as economic conditions change. Although studies on working capital management have been carried out by various scholars such as Lazaridis and Tryfonidis (2006), Demirgunes and Samiloglu (2008), and Biger (2010), it is instructive to note that there is still ambiguity regarding the appropriate variables that might serve as proxies for working capital management.

While considerable amount of research on working capital management has been undertaken by a number of researchers (Lazaridis and Tryfonidis, 2006; Demirgunes and Samiloglu, 2008 and Mathuva, 2010), their studies are primarily on companies in geographic jurisdictions other than Nigeria. Much of the currently available empirical literature on working capital management is focussed on its impact on firms in developed countries/regions such as the United States of America (U.S.) and Europe. This study focuses on Nigerian firms where only limited research has been conducted.

Similarly, there is relatively little evidence available on the effect of capital structure on the liquidity of listed companies in Nigeria. This study bridges this gap by examining the effect of capital structure on liquidity of quoted firms in Nigeria. Back home in Nigeria, not much has been studied and published on working capital management theories and concepts especially from the empirical point of view except for the works of Egbide and Enyi (2008) from which the present research takes a cue.

Most contributors on this subject before now have been textbook writers and theorists. Hence the compelling need to embark on the present study in order to fill the large vacuum created due to dearth of empirical studies on the subject matter mainly from this part of the globe. The study is equally timely in that there is an on-going global financial crisis urgently begging for solutions from output of serious researches on liquidity management of corporate firms, conducted by recognized financial economists' worldwide.

1.3 Research Questions

For the purpose of this study the following questions will be answered

i. What the implication/effect of inventory conversion period on liquidity of manufacturing companies?
ii. What are the various ways by which working capital components can be managed to enhance liquidity?
iii. How does the management of working capital cycle as well as the cash conversion cycle influence firm's liquidity?
iv. What is the nature of the relationship that exists between working capital components?

1.4 Objectives of the Study

This study seeks to investigate the impact that effective working capital management has on the financial performance (liquidity) of manufacturing firms in Nigeria. Other objectives are to:

i. Evaluate the implication/effect of inventory conversion period on liquidity of manufacturing companies.
ii. Assess the various ways by which working capital components can be managed to enhance liquidity.
iii. Evaluate the need for the management of working capital cycle as well as the cash conversion cycle and the extent of influence they have on a firm's liquidity.
iv. Examine the nature of the relationship that exists between working capital components.

1.5 Statement of Research Hypotheses

For the purpose of this study, the hypotheses statements that will be tested in the course of the study are:

H_{01} Proper management of working capital operating cycle does not influence the organization's liquidity.

H_{02}: There is no significant relationship between inventory conversion period and liquidity.

1.6 Scope and Limitation of the Study

Working capital management is very crucial in this period of global financial turmoil. This is because illiquidity is prevalent worldwide necessitating that effective and efficient management of any available cash will be needed to ensure that company breaks even and survives this distressed time since credit is not easily come by. This study presents empirical evidence of the effect of working capital management and liquidity on corporate profits using a cross-sectional time series data for the period 2013-2017.

The targeted population for this study consists of all the manufacturing companies in Nigeria, listed on the Nigerian Stock Exchange. However, there are about thirty six (36) of them that met this criterion.

Like all empirical studies, the present research also has its own limitations due to the methodology employed. The limitations of this study centred on time, availability of material and money. Since the study is centred on manufacturing organizations, the findings are not applicable to non-financial institutions. The nature of the organizations was a major limitation since the organizations are large and the researchers were not able to evaluate all the organization activities.

1.7 Significance of the study

In addition to determining if working capital management components impact on liquidity of Nigerian firms, this study has many contribution-enhancing positive features which include the following: Firstly, unlike previous studies that examined working capital by not differentiating between different market conditions, this study

explores the level of the impact of working capital management on liquidity as market conditions change. Specifically, it dissects the impact of working capital management under both an economic downturn as well as under an economic boom.

This information will be enlightening in trade credit policy formulation in that it will give guidance to company corporate managers in implementing and adapting an appropriate trade credit policy fitting for each market condition, as opposed to having a one size fits all trade credit policy.

Secondly, the study investigates the relationship between capital structure and liquidity of Nigerian firms where limited empirical research exists. Given that capital structure is viewed by a number of researchers such as De Angelo and Masulis (1980), Salawu (2009), and Brabete and Nimalathasan (2010) to be the most vital of all the aspects of capital investment decision, the study therefore examines its relationship with liquidity so as to give guidance to management in their attempt to identifying the optimal capital structure of the firm that maximizes market value.

Thirdly, the scope of the research has been extended to explore if the selected liquidity measures impact on liquidity of companies in the industrial sector and those in the rest of the other sectors different. This will give guidance to corporate managers in adopting an appropriate trade credit policy applicable in their sector.

Finally findings of this study can be beneficial for managers. It gives them more insight when they make their financial decisions, especially the decision on firm liquidity by using working capital. It also gives them insights about how to create the firm value by efficient working capital management. Investors can also gain benefits from this research. They can obtain some knowledge about how to assess a company's financial health by looking at the working capital management. Based on that, investors can make their correct investment decisions. This study is also useful for finance and accounting students. They can have a deeper look at how working capital management works and the impact of working capital management on firm value.

1.8 Organization of the Study

This research study comprises five chapters including this introduction section and is organised as follows. Chapter 2 provides literature review of the earlier work

undertaken on working capital management and how it affects profitability of firms in other geographic jurisdictions. In addition, chapter 2 defines key terms and variables used in the study. Chapter 3 describes the methodological approach that will be followed to address research questions put forward under section 1 above. Chapter 4 presents and analyses results of the study. It is followed by chapter 5 which discusses the results in comparison with findings from previous studies and then concludes by suggesting further work to be done in congruence with this study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Framework

2.1.1 Working Capital Management

Working capital management involves the decision on the amount and composition of current assets and how to finance such assets. Current assets include all those assets that in the normal course of business return to the form of cash within a short period of time, ordinarily within a year, and such temporary investment as may be readily converted into cash upon need (Raheman and Nasr, 2017).

Efficient working capital management involves planning and controlling current assets and current liabilities to prevent the risk of a company's inability to meet due short term obligations on the one hand, and to avoid excessive investment in these assets on the other hand (Eljelly, 2004). Many surveys have indicated that managers spend considerable time on day-to-day problems that involve working capital decisions (Raheman and Nasr, 2017). One reason for this is that current assets are short-lived investments that are continually being converted into other types (RAO, 1989). With regard to current liabilities, the company is responsible for paying these obligations on a timely basis. Taken together, decisions on the level of different working capital components become frequent, repetitive, and time consuming (Raheman and Nasr, 2017).

The way how working capital is managed can have a significant impact upon both the liquidity and profitability of the company (Shin and Soenen, 1998; Dong and Su, 2010). The ultimate goal of any company is to maximize profits. But, preserving its liquidity is also an important objective Raheman and Nasr, 2017). It is not a simple task for managers to make sure that in managing working capital, liquidity is maintained in day-to-day operations and that, simultaneously, business operations run efficiently and in a profitable manner (Zariyawati, 2014). Some decisions that tend to maximize profitability tend to minimize the chances of appropriate liquidity.

Conversely, focusing almost entirely on liquidity will tend to reduce company's potential profitability (Mathuva, 2010). The dilemma in working capital management

is to achieve the desired balance between liquidity and profitability. One of the objectives should not be achieved at the cost of the other because both have their importance. Hence, working capital management should be given proper consideration and will ultimately influence the company's profitability (Dong and Su, 2010).

Working capital has been regarded as the result of the time lag between the expenditure for purchasing raw materials and the collection from the sale of the finished good (Dong and Su, 2010). Thus, the Cash Conversion Cycle is a powerful measure for assessing how well a company is managing its working capital. The longer this time lag, the larger the investment in working capital (Deloof, 2016). Shorter cash conversion cycle could be associated to high profitability because the longer the cash conversion cycle the greater the need for expensive external financing. Therefore, by reducing the period that cash is tied up in working capital, companies can operate more efficiently (Nobanee and AlHajjar, 2009a).

Cash conversion cycle can be shortened by reducing the inventory conversion period via processing and selling goods more quickly; or by decreasing the receivables collection period via speeding up collections; or by lengthening the payables deferral period through slowing down payments to suppliers (Nobanee, 2009). This increases companies' efficiency of internal operations and results on higher profitability and higher market value.

Delaying payments to suppliers allows companies to assess the quality of the products that were bought, and can be an inexpensive and flexible source of financing. But we should bear in mind that late payment can have a very high implicit cost whenever early payment discounts are available. Since, money is also locked up in working capital, the greater the investment in current assets, the lower the risk but also the lower the profitability obtained (Falope and Ajilore, 2009).

From another point of view, longer cash conversion cycle might increase profitability. It can happen because large inventories and a generous trade credit policy may lead to high sales. Larger inventories decrease stock-out risks. Trade credit may stimulate sales because it allows customers to assess product quality before paying (Deloof and Jegers, 2016). However, corporate profitability might also decrease with cash conversion cycle, if costs with higher investments in working capital are higher and

rise faster than the benefits of holding more inventories and granting more inventories and trade credit to customers (Deloof, 2016).

Moreover, shortening the cash conversion cycle could harm the companies´ profitability; reducing the inventory conversion period could increase the shortage cost; reducing the receivables collection period could make the companies lose their good credit customers; and lengthening the payable period could damage the companies' credit reputation. Shorter cash conversion cycle is associated with high opportunity costs, and longer cash conversion cycle is associated with high carrying costs (Nobanee, 2009). An optimal level of working capital would be that in which a balance between risk and efficiency is attained, and both carrying costs and opportunity costs are minimized. It requires continuous monitoring to maintain the proper level of the various components of working capital, i.e., cash receivables, inventory and payables, etc.

2.1.2 Cash Management

In a business, having sufficient cash is very important. Cash is like the oxygen for a company to survive, company needs cash to deal with their daily operations. Padachi (2006) points out that "just as circulation of blood is very necessary in the human body to maintain life, cash flow is necessary to maintain business". Akinwande (2009) also mentions in his study that "Cash is life blood of a business, and a manager's key mission is to assist in keeping it to flow and to take the advantage of the cash flow in making profit". Therefore, maintaining sufficient cash can decide the destiny of a business. Cash management is mainly about the decision of cash distribution, which is also the most important component of working capital management.

Although cash does not earn profit, there are three motives for a company to hold cash:

1. Transaction motive: company needs certain level of cash to meeting their daily transactions, such as payment for supplier, salaries and son on. Cash holding ensures company to meet their regular cash outflow.
2. Precautionary motives: Sometimes, cash flow is hard for a company to predict because of the difference between the firms and industries. Cash holding can help to

relieve the problem of unexpected cash needs, for instance, raised cost of raw material and default of third party.

3. Speculative motives: during the business operation, unexpected investment opportunities can raise, sufficient cash holding allows the company to take advantage of these opportunities and grow in the future.

As one can see, companies can enjoy several benefits under holding sufficient cash. However, holding excessive cash does not make good business sense, since excessive cash can earn interest if they are used in the proper investment (Banjerjee, 2005). Martinez-Sola, Garcia-Teruel and Martinez-Solano (2011) test two questions in the investigation: first, whether there is an optimal cash level that can maximize firm value, and second whether firm value would be reduced if the cash deviates from the optimal level. Results denote that there is a concave relationship between cash holding and firm value, which means that optimal cash level that to maximized firm value, does exist. Firm value will be decreased if the cash holding is different from this optimal level. Trade-off theory can also explain that there is an optimal level of cash holding which can balance the marginal benefit and cost (Saddour, 2006). These results suggest that having optimal cash holding is the central task of cash management.

Banjerjee (2005) mentions that two constraints which decide how much cash a firm should maintain. The First is the compensating balances, which is the "cash balance required compensating for the services that are rendered by banks to the firms". The second is self-imposed balance, which is "determined by considering factors like the need for cash, the predictability of this need, the interest rate on marketable securities or the borrowing rate, and the fixed cost of effecting a transfer between marketable securities and cash or effecting a loan transaction".

Saddour (2006) studies the determinants of cash holding by using a sample of French firms. Results confirm that cash holding enable firms to take profitable investment opportunities, which leads to the fact that cash holding level of growth firm is higher than the matured firms. They also find that the determinants of cash holding are different between growth firms and matured firms. Cash holdings in growth companies decrease with the raise of firms' characteristics: size, level of liquid assets and sort-term debt.

However, in matured firms, cash level shows a positive relationship with firm size and dividend pay-out and negative relationship with firms' research and development expenses. With In a similar study, cash holding level in firms from Canada is strongly affected by their market to book ratio, cash flow, net working capital leverage, and firm size (Gill and Shah, 2012). Bensoussan, Chutani and Sethi (2009) explain the optimization problem of meeting demands for cash over time with cash deposit in bank or invested in stock. Study shows the solutions of optimal level of cash holding a company should have under different uncertainty by using different model.

The value of cash holding and use of cash holding vary between good and bad-governed firms. This can be illustrated by looking at influence on firm value by using of cash holding in different business environment: In a poorly-governed firm, 1 dollar cash is only valued at 0.88 dollar. To be a contrast to that, in a well-governed firm, 1 dollar cash can double its price. Firm's future performance in poorly corporate governance will be reduced since cash can be dissipated very fast. On the opposite, in well-governed firms, firms' future operating performance will get a big improvement due to the negative impact of cash holding can be cancelled out (Dittmar, Mahrt-Smith, 2006).

2.1.3 Inventory Management

Usually, inventory can be decomposed by three parts: raw materials, work-in-process inventory and finished inventory. Just like cash management, inventory management also has trade-off in its management system. According to Damodaran (1997), there are three motives for a company to hold inventories. First, raw materials are held to make sure that the production process goes well and not interrupted by a shortage of raw materials. Secondly, inventories of intermediate goods appear in the middle of process, it will be used to continue process.

Thirdly, holding enough finished goods is to avoid the risk of losing sales, and to avoid the large ordering and administration cost which caused by replenishing inventory. However, the down side of holding too many inventories can cause large carrying cost, for instance, storage cost, security cost, and goods obsolescence and goods perishing. Therefore, with an efficient inventory management, a lot of the risks and costs can be avoided.

Singh (2008) studies the relationship between inventory management and working capital management, and he supports the importance of inventory management. He thinks that firms with a poor inventory management can cause serious problems which destroy the long-term profitability and firms' survival chances. A contrary result, with a well-thought inventory management, firm can reduce the inventory to an optimal level which has no negative effect on production and sales. The study also denotes that the size of inventory directly affects the working capital and its management. Thus, inventory management does attract manager's attentions.

Considerable level of inventories is the main goal of inventory management. In order to find the solution for optimal inventory, Swaminathan (2001) studies the how structural reforms affects inventory management in public and private sectors in India. Findings of this study verify that adjusting raw material and finished goods as a component of inventory is faster than the inventory as a whole to reach the reasonable level. There are some other methods that can easier inventory management, such as, order quantity method, just-in-time inventories, etc. (Autu Kaite and Molay, 2011).

2.1.4 Accounts Receivable Management

Accounts receivable management, which is also known as debtor management, is a company giving their customers a specific credit term to pay for products or services. These credit terms, which are called trade credit, can help ease customer's financial frictions. Customers who buy products or service on trade credit are called sundry debtor for the company. Account receivable is a major component in business finance. In Europe country, such as Germany and Italy, account receivable is more than one quarter of their total asset (Bougheas, Mateut and Mizen, 2009).

Rajan and Zingales (1995) study capital structure of firms. They show that in a sample of American firms, 17.8 per cent of total assets are the accounts receivable. We can see that an efficient account receivable management is indispensable. They points out that providing trade credit to customers is very important to suppliers whose sales or investment depend on consumer's financing ability.

Emery (1984) uses operational and financial method to explain the reasons that behind extending trade credit: firstly, extending trade credit is due to pure operating flexibility. He explains that the demand of customers is irregular since the market is

imperfect. There is always a deviation from expected demand, which may cause the excess production. Temporary relaxations of credit terms allows account receivable account fluctuate correspond to the deviation in demand, which illustrates the formation of a sale queen instead of customer or products queen.

Secondly, pure financial intermediary motive explicates extension of trade credit. Due to the imperfect market, firms are required to maintain liquid reserve for the unexpected needs of cash. Offering trade credit to customers can be seen as offering loan to customers, which is also a part of liquid reserve. Ferris (1981) defines trade credit as a "particular type of short term loan: a loan that is tied in both timing and value to the exchange of goods". Therefore, firms can receive lending rate of return from this loaned liquid reserve. Extending trade credit gives suppliers an opportunity to earn a higher rate of return than the marginal return.

Hill, Kelly and Lockhart (2012) reveal that trade receivable significantly and positively affect shareholders wealth by studying all non-financial, non-utility, and SIC classifiable firms in the period 1971-2006. This result confirms the importance of a reasonable trade credit policy. However, the risks behind offering trade credit to customers are: firstly, customers may default, which causes the company to run the risk of bad debts. Secondly, company will lose the interest between time of sale and time of payment by the customer.

Based on the trade-off of credit sale, controlling and managing account receivables become very important. Kumar (2010) explains the meaning of debtor management as a process of making decision which relates to the investment in the business debtors. And the aim of debtor management is to stimulate the sales and meanwhile minimize the risk of not receiving money from the debtors. If debtor management is in a poor condition, working capital ratio could be stressful which causes the needs of more capital input or increased debt (Turner, 2009). They find out that 59 percent firms of Fortune 500 are using account receivable management model to improve their working capital management.

In order to achieve effective account receivables management, there are two elements should be focused. On the one hand, company needs to know which credit policy is suit for their business. Credit policy gives firms a guideline about how to deal with the debtor and how much credit they should liberalize to their customers. With a liberated

credit policy, the sale and profitability of a firm may increase largely, but the risk of bad debts or interest foregone may also increase. With a strict credit policy, the security and liquidity of a firm may rise, but profitability of the firm may go down.

Obtaining the optimal level of security and profitability is the one task of financial manager. On the other hand, company should know their customers well, that is what we called credit analysis. Damodaran (1997) defines credit analysis is "an analysis designed to evaluate the creditworthiness of customer". Based on customers' capacity analysis, company can make their credit decision, which is whether to sell the products or service on credit.

2.1.5 Accounts Payable Management

Suppliers offer trade credit will create account receivable, opposite to that, customers accept the trade credit will generate account payable. Account payable, which occurs when firms purchase goods or services on credit, is the payment for vendors for products, services inventories and supplies. One merit of having trade credit from sellers is that company can reduce some investment in working capital management and save some resource (Damodaran, 1997).

Maximizing the account payable and stretching the payment term could be a competitive advantage for firms. In the United Kingdom, on average there are 70 percentage of the total short term debt. 55 percentage of these short term debt are recorded under account payable (Guariglia and Mateut, 2006). However, the risk of maximizing account payables by having a longer credit period from the supplier is that firms may not get a discount from their vendors or bad quality products or service may get from suppliers, which can ruin the business relationship between suppliers and demanders. Finally it will affect firm's profitability (Ganesan, 2007). Some elements of account payable management, such as account payable policy, implementation of the policy and monitoring result, can help manager ensure that efficiency of account payable management reached (Sagner, 2011).

2.1.6 Working Capital Management Policies

Characteristics of each component of working capital management alert that the management should not underestimate the importance of working capital management. Decision of working capital management can be affected by a

company's working capital management policy as well. Working capital management policy is a method of making investment by using current assets and financing firms' assets by using short-term liabilities (Bandara, and Weerakoon-Banda, 2011). Basically, there are three types of working capital policies: matching working capital policy, aggressive working capital policy and conservative working capital policy.

First, matching working capital policy is by using current asset to match current liability perfectly. It implies that company will simply keep enough cash on hand to pay for their due liabilities. Second, aggressive working capital policy is that companies usually has low account receivable and try to pay their payable as late as possible. They invest most of their asset into the investment and keep less cash on hand. Though this policy has high return, the risk is high. Third, conservative working capital policy is preferred by risk aversion. Companies under this policy usually make sure they can pay their liability on time, and they keep extra cash on hand just for the uncertainty (Kulkarni, 2011).

Firms can minimize financial risk and improve its overall performance if firms have a well-though working capital management policy by understanding the role and drivers of working capital management (Nazir, and Afza, 2009).

Weinraub and Visscher (1998) investigate the relationship between aggressive and conservative working capital practice in ten diverse industry groups. They find out that industries do have significantly different policies on their working capital management, and the policy in each industry keeps stable over time. Besides this, the study also denotes that industry asset and liabilities polices have a significantly negative relationship.

Nazir and Afza (2009) reiterate the importance of working capital management policies. They discussed the how working capital management policy affects firms' profitability. A negative relationship between profitability and degree of aggressiveness of working capital policies is concluded in their research. They suggest that managers can create firm value by adopting a conservative approach in working capital management.

In recent years, working capital management policy still attracts economists' attentions. In 2011, Bandara, and Weerakoon published their research "the impact of

working capital management practices on firm value". The study indicates that working capital management has impact on firms' value by studying a sample of 74 companies listed in the Colombo stocking exchange. The result is similar to the result of Nazir and Afza (2009), reveals a significant positive relationship between conservative working capital management policy and firm value. A significant negative relationship between aggressive working capital management and firm value proves that aggressive working capital management policy may destroy firm value. Moreover, the study explains that firms following match working capital management policy can generate higher value than the firms with conversion working capital management.

Al-Mwalla (2012) further validates the positive relationship between conservative working capital management policy, which uses more long term debt to finance firms' activities, and firms' profitability and its value; and the negative relationship between aggressive working capital management policy, which use more short term liabilities to finance firms' activities, and firms' profitability and value.

Thus, a well-designed working capital management policy can be a competitive advantage for firms to create value for their shareholders. Furthermore, in the study of Al-Shubiri (2011), he confirms that there is no significant relationship between working capital management policy and operating and financial risk.

2.1.7 Measures of Working Capital Management

Since working capital management is such important for businesses, how do managers know whether their management is efficient or not? There are several ways to assess the efficiency of working capital management. The traditional way is by using liquidity ratios, for instance, current ratio, and quick ratio. The drawback of these ratios is that they are too general, there is not too much detailed information of working capital management can be reached.

However, the cash conversion cycle (CCC), which is defined as the total time that a company takes from the days they bought their raw materials to the moment when they sell their finished goods, is deemed as the best measure for working capital management. A short cash conversion cycle implies that company has a good liquidity. Firms have sufficient cash or capital to run their daily operation. If the

duration of cash conversion cycle is too long, it implies that company needs more cash to finance its cycle (Mathur, 2010).

Cash conversion cycle is calculated by Days Sales Outstanding (DSO) + Days Inventory Outstanding (DIO) -Days Payable Outstanding (DPO). From this equation, the performance of each dimension of working capital management can be evaluated as well. That is one of the reasons it has been used so often as the measure of working capital management. Following shows the calculation of each components of cash conversion cycle.

1. Days Sales Outstanding (DSO) is used to measure how many days it takes a firm to collect their account receivable. It is calculated by account receivable (trade) / total revenue*365
2. Days Inventory Outstanding (DIO) evaluates how many days does a firm take to convert their inventory to sales? It is calculated by Inventory/ cost of goods sold*365
3. Days payable Outstanding (DPO) is measuring how many days a firm needs to pay for their vendors or supplier for the goods or service they use. It is calculated by account payables (trade) / cost of goods sold*365

From the perspective of Days Sales Outstanding and Days Inventory Outstanding, the result are expected to be the shorter the better, since shorter Days sales outstanding and shorter Days inventory outstanding implies that company can get cash in a short time. Opposite to the Days Sales outstanding and Days inventory outstanding, Days Payable Outstanding is expected to be longer. Basically, if firms can have a longer payment terms it can help company to reduce working capital investment. However, the disadvantages of doing this are: first, companies may lose the opportunity of discount. Second, it may cause a bad relationship with vendors. In the research of Deloof (2003), the relationship between three components of cash conversion cycle and firm's profitability are also studied.

The results exhibit that a negative relationship between the numbers of days account receivable and cross operating income. Same applied to the numbers of inventory days and cross operating income in his research. The results confirm that a decrease in Days Sales Outstanding and Days Inventory Outstanding is an improvement for companies.

A significant and negative relationship between Days Payable Outstanding and cross operating income (net operating income) is found in the research of Deloof (2003). This is not in line with my expected sign. The potential reason for negative relationship between Days Payable Outstanding and profitability is the downside of paying vendors late, such as, no discount and bad quality of service, has more effects on the industry which is used in his study.

Garcia-Teruel and Martinez-Solano (2006) focus on the impact of working capital management on small and median firms' profitability. Outcomes are in line with the conclusions from Deloof (2003) that firm's profitability is negatively related to days account receivables and Days Inventory Outstanding. These findings mean that firms' performance or profitability can be generated by reducing the Days Sales Outstanding and Days Inventory Outstanding. Equally, Lower cash conversion cycle implies that cash move fast around the cycle and this can become a competitive advantage for firms (Autukaite, and Molay, 2011).

Net trade cycle (NTC), which is used in the study of Shin and Soenen (1998), is another measure for working capital management. Basically, NTC is similar to cash conversion cycle. Three components (account receivable, inventory and account payable) are presented as a percentage of sales (Shin and Soenen, 1998). They indicate indicate the advantage of NTC is that "it provides an easy estimate for addition financing needs with regard to working capital expressed as a function of the projected sales growth", and "NTC is also closely related to the issue of firm valuation and creation of shareholder value".

Research in different industries would like to use different measures of working capital management, which is proved by Filbeck and Kureger (2005). They examine the working capital performance across industries by investigating the annul rating of working capital performance of firms of CFO Magazine. The study illustrates the different measure of working capital management that is used in companies cross industries, and list how often each company within an industry change their measure of working capital measurement over time. They concluded that among industries, there is a significant difference exist regarding to the proxy of working capital management and within an industry, working capital management measures are different over time.

2.1.8 Strategies for Improving Working Capital Management

It is vital for leaders in treasury to know how they can improve the working capital management. Unfortunately, there is no standard solution for all firms. Features of firm decide what kind of working capital management they should apply. However, the following dimensions may give managers some insights.

Six Sigma methodologies have been recognized as a helpful method to improve working capital management. Generally speaking, "Six sigma is a disciplined, data-driven approach and methodology for eliminating defects (driving toward six standard deviations between the mean and the nearest specification limit) in any process-from manufacturing to transactional and from product to service" (six sigma, 2012). It helps companies to measure liquidity and make sure the liquidity goes well in the all areas of institution.

"Six sigma methodologies can decrease the Days Sales Outstanding, accelerates the payment cycle, improves customer satisfaction and reduces necessary amount and costs of working capital needs" (Filbeck, and Krueger, 2005). Waxer (2003) tests four companies which applied six sigma methodologies. The result shows that costs saving are significant in these four companies. These savings are ranged from 1.2 to 4.5 percentage of revenue. Waxer (2003) indicates that six sigma methodologies is not a "short-cut" that allow firms to be profitability immediately. Six Sigma is a saving method which takes some times before companies be profitable if companies plan properly.

Rule (2004), the director and global head of liquidity and investments in Citigroup, gives her suggests to improving working capital management: first, liquidity management is an effective tool in managing working capital. Liquidity management has been concentrated by managers for many years, but there are two parts are emphasized: 1. the real time information integration is very important since it help the manager to know where their position is in the cash cycle, and how to make their budget for next step. 2. Invest extra money in vehicles to earn higher return instead of putting in the deposition and generate minimal interest. Second, there are some new tools, for instance, electronic invoice presentment and payment and continuous linked settlement, which can help improving working capital management.

2.2 Liquidity Management

Liquidity management is a concept that is receiving serious attention all over the world especially with the current financial situations and the state of the world economy. The concern of business owners and managers all over the world is to devise a strategy of managing their day to day operations in order to meet their obligations as they fall due and increase profitability and shareholder's wealth. Liquidity management, in most cases, are considered from the perspective of working capital management as most of the indices used for measuring corporate liquidity are a function of the components of working capital.

The importance of liquidity management as it affects corporate profitability in today's business cannot be over emphasis. The crucial part in managing working capital is required maintaining its liquidity in day-to-day operation to ensure its smooth running and meets its obligation (Eljelly, 2004). Liquidity plays a significant role in the successful functioning of a business firm. A firm should ensure that it does not suffer from lack-of or excess liquidity to meet its short-term compulsions. A study of liquidity is of major importance to both the internal and the external analysts because of its close relationship with day-to-day operations of a business (Bhunia, 2010). Dilemma in liquidity management is to achieve desired trade-off between liquidity and profitability.

Liquidity requirement of a firm depends on the peculiar nature of the firm and there is no specific rule on determining the optimal level of liquidity that a firm can maintain in order to ensure positive impact on its profitability. For the purpose of this study liquidity management is viewed from the aspect of company's credit policy, it cash flow management and cash conversion cycle. Liquidity in itself, for the purpose of this research, is measured in terms of current asset ratios, quick ratio and operating cash flow.

2.2.1 Components of Corporate Liquidity Management

Cash flow Management

As earlier stated, the survival of any business depends on its ability of meet, either in the short run or in the long-run, and it obligations as they fall due and also take opportunities either in the form of prompt payment of liabilities in order to enjoying

discounts and also to finance business expansion. It is important to state at this point that profitability does not always amount to liquidity as such a critical analysis of company's inflow and expected outflow in an accounting period is gamine to effective cash management.

Torre (1997) defines treasury (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.

To prevent breaks or gaps in the trading cycle due to lack of cash, administrators must calculate the cash amount best suited to their level of activity, plan the timing of the relevant payments and collections and draw up a policy of investment in assets with high liquidity that can be converted to cash at a low transactional cost to serve as support for the treasury funds maintained by the company (Rule, 2004).

It is therefore essential to establish the right level of disposable assets to short-term financial investments at companies. Holding the wrong amount in cash or cash equivalent may interrupt the normal flow of business activities. Moreover, the wrong safety margin may result in financial difficulties, with firms unable to meet needs that may arise at any given time or unable to take advantage of unexpected investment opportunities. Maintaining a cash surplus thus has a number of advantages.

It enables companies to carry on the normal transactions that arise in the course of their activities and avoid any treasury gaps. It also helps them cover any unexpected needs for cash by acting as a preventive balance. However, there are also disadvantages in being too conservative, as reflected in the opportunity costs entailed by assets with little or no profitability.

Having liquid assets available constitutes an opportunity cost for a company, as the return on those assets is lower than the return on productive investments, but there

may still be transaction costs arising from the sale or purchase of financial assets, and disadvantages in terms of taxation. The particular importance of disposable asset management as a responsibility of the company treasurer should lead companies to conduct an overall analysis of this point, covering management of the collections circuit, cash and payment circuit (Palom & Prat, 1984).

This overall analysis should strive to shorten collection periods, lengthen payment periods and avoid idle resources that do not generate returns. Casanovas & Fernández (2001) is of the idea that treasury management is seen as "administration of the treasury circuit", entailing chiefly the analysis, study and review of the three circuits indicated (payments, collections and cash holding).

However, taking basic treasury principles as their reference, these authors identify and determine more complex techniques, instruments and functions, which they also integrate into treasury management. They mention advanced cash management, which is considered to include the management of short term investments, short-term financing and bank relationships. Therefore, although they stress the essence of treasury management, they analyze and set out more advanced management techniques and tools, which are considered as characteristic of cash management.

Optimal balance here means a position when the cash balance amount is on the most ideal proportion so that the company has the ability to invest the excess cash for a return [profit] and at the same time have sufficient liquidity for future needs. The objective is to minimize the sum of the fixed costs of transactions and the opportunity cost of holding cash balances.

Credit Policy:

Credit Policy can be viewed as written guidelines that set the terms and conditions for supplying goods on credit, customer qualification criteria, procedure for making collections, and steps to be taken in case of customer delinquency. This term can also be refers to as collection policy. It is also the guidelines that spell out how to decide which customers are sold on open account, the exact payment terms, the limits set on outstanding balances and how to deal with delinquent accounts. Businesses, in an attempt to meet up with sales target and competition, adopt various business strategies to maintain good relationship with their customers. One of such strategies is the

selling of goods to its customers or rendering services to its clients on credit as such management need to have viable credit policies to enhance the collectability of the credit sales to boost company's liquidity and to reduce the risk of bad debt.

According to Lawrence (2003), the objective of managing accounts receivable is to collect receivable without losing sales from high-pressure collection techniques. Accomplishing this objective encompasses; credit selection and standard which involve the application of technique for determining which customer should receive credit. This process involve evaluating the customer's creditworthiness and comparing it to the firm's credit standard, its minimum requirements for extending credit to customers and credit monitoring which involves on-going review of the firm's account receivable to determine whether customers are paying according to the stated credit terms. Slow payments are costly to a firm's investment in account receivable.

Debtor management means the process of decisions relating to the investment in business debtors. In credit selling, it is certain that we have to pay the cost of getting money from debtors and to take some risk of loss due to bad debts. To minimize the loss due to not receiving money from debtors is the main aim of debtor management Economic conditions and firms credit policies are the chief influence on the level of a firm's account receivable (James, 2002).

The trade-off between increase in the market share through credit sales and the collectability of the account receivable affects firm's liquidity and its eventual profitability. A firm may report large profit and still suffer liquidity problem if bulk of its transactions are in account receivable and collection policy in not effective. Credit and collection policies encompasses the quality of accounts accepted, the credit period extended, the cash discount given, certain special terms and the level of collection expenditure. In each case, the credit decision involves a trade-off between the additional profitability and the cost resulting from a change in any of these elements.

Receivable management begins with the decision of whether of whether or not to grant credit. Where goods are sold on credit, a monitoring system is important, because without it, receivable will built 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 (Eugene, 1992). The credit policy of a company depends on the nature of its business.

Eugene, (1992), states that optimal credit policy, hence the optimal level of accounts receivable, depends on the firm's own unique operating conditions. A firm with excess capacity and low variable production cost should extend credit more liberally and carry a higher level of receivable than a firm operating at full capacity on slim profit margin. However, even though optimal credit policy vary among firms or even for a single firm over time, it is still useful to analyze the effectiveness of the firm's credit policy in an overall aggregate sense.

One major factor that plays a vital role in the management of debt is the credit policy of the business organization. An effective credit policy should increase both liquidity and profitability and reduce the risk of bad debt. A loose credit policy will increase sales and profitability at the expense of liquidity and risk bad debt while a strict credit policy in the other hand will increase liquidity and reduce the risk of bad debt but also reduce sales and profitability.

So, businesses should make credit policy at optimum level where profitability and liquidity will be equal. In developing the credit policy of a business, the management of need to be very careful not to be too strict to repel both existing and potential customers and not to be loose to hold bulk of working capital in account receivable that collectability is not feasible. Debtor collections period should be shorter than the date obligation to external parties will fall due.

Cash Conversion Cycle (CCC)

Cash conversion cycle is another measure of corporate liquidity management (Moss & Stine, 1993). It measures the time lag between cash payments for purchse of inventories and collection of receivables from customers. The CCC is used as a comprehensive measure of working capital as it shows the time lag between expenditure for the purchase of raw materials and the collection of sales of finished goods (Padachi, 2006). The Day to day management of firm's short term assets and liabilities plays an important role in the success of the firm. Firms with glowing long term prospects and healthy bottom lines do not remain solvent without good liquidity management.

Cash conversion cycle is likely to be negative as well as positive. A positive result indicates the number of days a company must borrow or tie up capital while awaiting payment from a customer. A negative result indicates the number of days a company has received cash from sales before it must pay its suppliers (Hutchison 2007). Of course the ultimate goal is having low CCC, if possible negative. Because the shorter the CCC, the more efficient the company in managing its cash flow.

From the equation of CCC above, it is seen that a firm can reduce its need for working capital by (Bodie & Merton, 2000):

1. Reducing the amount of time that goods are held in inventory. This can be accomplished by improving the inventory control process or by having suppliers deliver raw materials exactly when they are needed in the production process.
2. Collecting accounts receivable more quickly. Among the methods available to speed up the collection process are improving the efficiency of the collection process, offering discounts to customers who pay faster, and charging interest on accounts that are overdue.

2.2.2 Factors that Affect Liquidity Requirement of a Company

The company must maintenance adequate amount of liquidity to meet it daily obligations but liquidity in excess of what is adequately required by the firms to finance it operations may be counter-productive. The liquidity requirement of firms differs depending on the circumstances of the company. Pandy (2005) outline the following as some of the factors that influence the liquidity requirement of a company.

Nature and Size of Business

The liquidity needs of a firm are basically influenced by the nature of its business. Trading and financial firms generally have a low investment in fixed assets, but require a large investment in working capital. Retail stores, for example, must carry large stocks of a variety of merchandise to satisfy the varied demand of their customers. Some manufacturing businesses' like tobacco, and construction firms also have to invest substantially in working capital but only a nominal amount in fixed assets.

In contrast, public utilities have a limited need for working capital and have to invest abundantly in fixed assets. Their working capital requirements are nominal because they have cash sales only and they supply services, not products. Thus, the amount of funds tied up with debtors or in stocks is either nil or very small. The working capital needs of most of the manufacturing concerns fall between the two extreme requirements of trading firms and public utilities.

Manufacturing Cycle

The manufacturing cycle starts with the purchase 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, because an extended manufacturing time span means a larger tie-up of funds in inventories. Any delay at any stage of manufacturing process will result in accumulation of work-in-process and will enhance the requirement of working capital. Firms making heavy machinery or other such products, involving long manufacturing cycle, attempt to minimize their investment in inventories (and thereby in working capital) by seeking advance or periodic payments from customers.

Business Fluctuations

Seasonal and cyclical fluctuations in demand for a product affect the working capital requirement considerably, especially the temporary working capital requirements of the firm. An upward swing in the economy leads to increased sales, resulting in an increase in the firm's investment in inventory and receivables or book debts. On the other hand, a decline in the economy may register a fall in sales and, consequently, a fall in the levels of stocks and book debts. Seasonal fluctuations may also create production problems. Increase in production level may be expensive during peak period. A firm may follow a policy of steady production in all season and their quick disposal in peak season. Therefore, financial arrangement for seasonal working capital requirement should be made in advance. The financial plan should be flexible enough to take care of any seasonal fluctuation

Production Policy/ Just-in-Time

If a firm follows steady production policy, even when the demand is seasonal, inventory will accumulate during off-season periods and there will be higher

inventory costs and risks. If the costs and risks of maintaining a constant production schedule are high, the firm may adopt the policy of varying its production schedule in accordance with the changes in demand. Firms whose physical facilities can be utilized for manufacturing a variety of products can have the advantage of diversified activities. Such firms manufacture their main products during the season and other products during off-season. Thus, production policies may differ from firm to firm, depending upon the circumstances. Accordingly, the need for working capital will also vary.

Turnover of Circulating Capital

The speed with which the operating cycle completes its round (i.e., cash → raw materials → finished product → accounts receivables → cash) plays a decisive role in influencing the working capital needs

Credit Terms

The credit policy of the firm affects the size of working capital by influencing the level of book debts. Though the credit terms granted to customers to a great extent depend upon the norms and practices of the industry or trade to which the firm belongs; yet it may endeavor to shape its credit policy within such constraints. A long collection period will generally mean tying of larger funds in book debts. Slack collection procedures may even increase the chances of bad debts. The working capital requirements of a firm are also affected by credit terms granted by its creditors. A firm enjoying liberal credit terms will need less working capital.

Growth and Expansion Activities

As a company grows, logically, larger amount of working capital will be needed, though it is difficult to state any firm rules regarding the relationship between growth in the volume of a firm's business and its working capital needs. The fact to recognize is that the need for increased working capital funds may precede the growth in business activities, rather than following it. The shift in composition of working capital in a company may be observed with changes in economic circumstances and corporate practices. Growing industries require more working capital than those that are static. This could be measured using the percentage increase in total assets

Operating Efficiency

Operating efficiency means optimum utilization of resources. The firm can minimize its need for working capital by efficiently controlling its operating costs. With increased operating efficiency the use of working capital is improved and pace of cash cycle is accelerated. Better utilization of resources improves profitability and helps in relieving the pressure on working capital. Operating efficiency can measured using the Total asset to Sale ratios. This measures the percentage of investment in assets that is needed to generate the annual sales level. If the percentage is very high, it probably indicates that a business is not being aggressive in its sales efforts. This can be seen in the table below.

Price Level Changes

Generally, rising price levels requires a higher investment in working capital. With increasing prices the same levels of current assets need enhanced investment. However, firms which can immediately revise prices of their product upwards may not face severe working capital problems in periods of rising levels. The effects of increasing price level may, however, be felt differently by different firms due to variation in individual prices. It is possible that some companies may not be affected by the rising prices, whereas others may be seriously affected by it.

An enterprise needs funds (liquidity) to operate profitably. The working capital of a business reflects the short-term uses of funds. Apart from the investment in the long-term assets such as buildings, plant and equipment, funds are also needed for meeting day to day operating expenses and for amounts held in current assets. Within the time span of one year there is a continuing cycle or turnover of these assets. Cash is used, to acquire stock, which on being sold results in an inflow of cash, either immediately or after a time lag in case the sales are on credit. The rate of turnover of current assets in relation to total sales of a given time period is of critical importance to the total funds employed in those assets.

The amount needed to be invested in current assets is affected by many factors and may fluctuate over a period of time. Manufacturing cycle, production policies, credit terms, growth and expansion needs, and inventory turnover are some of the important factors influencing the determination of working capital. The management should

ensure the adequacy and efficiency in the utilization of working capital in order to maintain a required level of liquidity needed to meet the firm's obligations as at when due. For this purpose various ratios can be periodically computed and compared against the norms established in this regard.

For efficient management of working capital, management of cash is as important as the management of other items of current assets like receivables and inventories. Too little cash may place the firm in an illiquid position, which may force the creditors and other claimants to stop transacting with the firm. Too much cash results in funds lying idle, thereby lowering the overall return on capital employed below the acceptable level. An adequate amount of cash is always needed for meeting any unforeseen contingencies and also liabilities as well as day-to-day operating expenses of the business.

2.2.3 Measures of Corporate Liquidity Management

The liquidity of a company is measured with use of some financial ratios refers to as liquidity ratios. These groups of ratios measure the ability of the firms to meet its current obligations (Liabilities). Analysis of liquidity needs the preparation of cash budgets and cash flow statement; but liquidity ratio, by establishing a relationship between cash and other current assets to current obligations, provided a quick measure of liquidity (Pandy, 2005). The most common ratios, which indicate the extent of liquidity or lack of it, are:

Debtors Collection Period (DCP)

DCP ratio is calculated by dividing Trade debtors by Turnover and multiply by 365: This ratio show number of days it takes an organisation to recover it credit sales. The short the period the better for the organisation. Account receivables with longer recoverable period possess the risk of bad debt for the company and also affects liquidity in the short run.

Creditor Payment Period (CPP)

CPP ratio is calculated by dividing Average Trade Creditors by Cost of Goods Sold and multiply the result by 365. This ratio show the number of days the company is required to settle it short term obligations. The longer the period the better for the

company as it gives the company leverage to recover it receivables. Where the period is shorter than the debtors collection period it exact pressure on the liquidity of the company

Cash Flow Ratio

An important measure of the overall financial health of a company is the level of cash it generates through normal business operations. As a company operates, cash flows into the business as income and out as expenses. These activities, known as cash flows, are at the heart of all businesses and determine the ability of the company to generate profits and continue its operations (Stock ResearchPro, 2009). The formula for the operating cash flow ratio can be written as:

Operating Cash Flow Ratio = Cash Flow from Operations / Current Liabilities

Cash Conversion Cycle (CCC)

The cash conversion cycle is calculated thus:

CCC = Days of Sale Outstanding + No. Of Day in Inventories - Days of Payable Outstanding. In the formula above, the three variables to which CCC is dependent are defined as stated above. Cash conversion cycle is likely to be negative as well as positive. A positive result indicates the number of days a company must borrow or tie up capital while awaiting payment from a customer. A negative result indicates the number of days a company has received cash from sales before it must pay its suppliers (Hutchison, 2007).The ultimate goal of every manufacturing company is having low CCC, if possible negative. Because the shorter the CCC, the more efficient the company in managing its cash flow.

Profitability

Profitability is the ability to make profit from all the business activities of an organization, company, firm, or an enterprise. It measures management efficiency in the use of organisational resources in adding value to the business. Profitability may be regarded as a relative term measurable in terms of profit and its relation with other elements that can directly influence the profit. Profitability is the relationship of income to some balance sheet measure which indicates the relative ability to earn income on assets. Irrespective of the fact that profitability is an important aspect of

business, it may be faced with some weakness such window dressing of the financial transactions and the use of different accounting principles.

2.3 Relationship between Working Capital Management and Liquidity Liquidity has an important relationship with profitability. If we have enough liquid resources, we may be able to get benefit of cash discount on purchases and consequently that will be result in increasing profits. If we cannot pay the creditors for goods in the given period, we have to pay interest on the amount of purchases. Thus, shortage of liquid resources will result in low of cash discount and payment of interest. Both the losses will certainly decrease over profits.

Secondly, we may keep the stock at desired manners and that will benefit us in circulation of business activities. Contrary to this, if we are not able to keep sufficient stock due to shortage of liquid resources, then the production cycle may not be continued and that will result in heavy losses. Liquid resources of a business concern for all over to expand huge business activities more, and less in financial. In case of steel industry in India, the management of liquid resources plays a greater role because in comparison to others industries, this industry has capacity to pay its obligations promptly.

2.3.1. Liquidity and Profitability Trade-off

Liquidity is a flow concept and as such refers to ability of a firm to generate adequate cash from both internal and external sources to meet its cash requirements (Egbide and Enyi, 2008). It is technically known as solvency meaning the firm's continuous ability to meet maturing obligations while profitability refers to the firm's ability to generate revenues in excess of the cost of generating such revenues.

Most empirical studies have established liquidity and profitability as the most important goals of working capital management and have been found to be universally associated with each other (Raheman and Nasir 2007). Trade-off between the dual goals of working capital management as shown in Smith (1980) which is similar to risk-return trade-off has increasingly been supported by many empirical findings (Nguyena, 2007; Eljelly, 2004 and Raheman and Nasir, 2007).

Yunq-Janq (2002) examines relationship between liquidity and profitability for firms in Japan and Taiwan and discovers that aggressive liquidity management enhances

operating performance which leads to achievement of higher corporate values for both countries despite differences in both their structural characteristics and financial systems.

Along the same line of investigation, Eljelly (2004), examines a sample of 29 joint stock companies in Saudi Arabia and finds a strong negative relationship between liquidity and profitability. These two studies evidence the need to balance profitability with liquidity. This is because policies that tend to maximize profitability tend to reduce liquidity and vice versa for the particular business firm under consideration (Uremadu, 1998, 2000, 2001).

Although profitability target is seen as the ultimate objective of an enterprise but preserving liquidity is equally important. Hence, increasing profitability at the expense of liquidity or vice versa can bring serious problems to the firm. Therefore there arises the need to balance profitability goal with liquidity goal of business enterprise in order to maintain a balanced working capital position of the particular firm and (to) ensure its survival at all times. To have higher profitability, a firm will have to maintain a relatively low level of current assets (Egbide and Enyi, 2008).

The implication of this is to ensure that fewer funds are tied up in idle current assets, but the firm adopting this strategy will be sacrificing solvency thereby exposing itself to greater risk of cash shortage and stock outs. On the other hand, to ensure solvency, a firm has to be very liquid which means maintaining a relatively large investments in current assets. The latter policy ensures that the firm is able to meet its short term obligations as well as fills sales orders and ensures smooth production schedule. This will, however, reduce profitability since a large proportion of funds are tied up in current assets (Egbide and Enyi, 2008 and Uremadu, 2004).

Nonetheless, profitability and liquidity objectives should not be mistaken to be permanently mutually exclusive as there may arise situations where both move in the same direction. For example, Lyroudi and Lazaridis (2000) demonstrate through a study that there exists no linear relationship between liquidity and profitability among the Greek food industry. In support of this view, Byrnes (2003) reports that Dell Corporation generated huge amount of liquidity and extra-ordinary high returns at the same time. His study reveals that while it took Dell forty five days to pay its vendors, its debtor’s collection period was four days.

That this strategy has crafted a sort of cash engine which enabled them to finance the company's rapid growth and limited its external financing needs as well as has yielded high returns. Finally, this argument can equally be supported by a view that liquidity is a matter of degree and lack of it can limit advantages of favorable discounts, profitable opportunities, management actions and coverage of current obligations (Egbide and Enyi, 2008). In the same way, illiquidity often precedes lower profitability, restricted opportunities, loss of owner control, loss of capital investment, insolvency and bankruptcy (Anon, 2003).

Liquidity and profitability are the two main purposes of working capital management (WCM) and relates to the matching of assets and liabilities movements over time (Pass & Pike, 1984 cited in Lamberg & Valming, 2009). The general claim in literature centre around liquidity/profitability trade off hypothesis which posit that these two financial terms pose conflicting ends to an organisation, hence a pursuit of one will mean a trade off of the other (Dash & Hanuman, 2008). However, the other side of thinking holds that managers can pursue both liquidity and profitability goals as these two objectives have a direct relationship. These two viewed were observed by Chakraborty (2008) when evaluating the relationship between working capital and profitability of Indian pharmaceutical companies.

He pointed out that there were two distinct schools of thought on this Issue: first that working capital is not a factor of improving profitability and there may be a negative relationship between them. Secondly, that investment in working capital plays a vital role to improve corporate profitability, and unless there is a minimum level of investment of working capital, output and sales cannot be maintained. These two directions in literature are briefly reviewed.

2.4 Theoretical Framework

We shall, foremost, in this section, present the theoretical framework on which the study leans. There are two theories to working capital: gross and net, and they are explained and discussed here under.

First, 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

(known as operating cycle) and they include cash, short-term securities, debtors (accounts receivable or book debts), bills receivable and stock (inventory).

Second, 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 and include creditors (accounts payable), bills payable, and outstanding expenses. Net working capital can be positive or negative. A positive net working capital will arise when current assets exceed current liabilities while a negative net working capital occurs when current liabilities are in excess of current assets (Pandey, 2000).

The two theories of working capital (i.e. gross and net) are not exclusive; rather they have equal significance from the management viewpoint. The gross working capital focuses attention on two aspects of current assets management. (i) How to optimize investment in current assets? (ii) How should current assets be financed? On point (i) above, we conceptualize 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 business firm. Excessive investment in current assets should be avoided because it impairs the firm's profitability, as idle investment earns nothing. On the other hand, inadequate amount of working capital can threaten solvency of the firm because of its inability to meet its current obligations. It should be realized that the working capital needs of the firm may be fluctuating with changing business activity. This may cause excess or shortage of working capital frequently. The management should be prompted to initiate an action and correct imbalances (Deloof, 2003).

Another aspect of the gross working capital points to the need of arranging funds to finance current assets. Whenever a need for working capital funds arises due to the increasing level of business activity or for any other reason, financing arrangement should be made quickly. Similarly, if suddenly, some surplus funds arise they should not be allowed to remain idle, but should be invested in securities. Thus, the financial manager should have knowledge of the sources of working capital funds as well as investment avenues where idle funds may be temporarily invested. Net working capital is a qualitative concept and as such it indicates the liquidity position of the

firm and suggests the extent to which working capital needs could be financed by permanent sources of funds.

Current assets should be sufficiently in excess of current liabilities to constitute a margin or buffer for maturing obligations within the ordinary operating cycle of a business. In order to protect their interest, short-term creditors would always like a company to maintain current assets at a higher level than current liabilities and in most cases, twice the level of current liabilities (Kumar, 2011).

However, the quality of current assets should be considered in determining the level of current assets vis-à-vis current liabilities. A weak liquidity position poses a threat to the solvency of the company and makes it unsafe and unsound. A negative working capital means a negative liquidity, and may prove harmful for the company's reputation. Excessive liquidity is also bad. It may be due to mismanagement of current assets. Therefore, prompt and timely action should be taken by management to improve and correct the imbalances in the liquidity position of the firm (Sagner, 2011).

Net working capital concept also covers the question of judicious mix of long-term and short-term funds for financing current assets (Nguyena, 2007). For every firm, there is a minimum amount of net working capital which is permanent. Therefore, a portion of the working capital should be financed with the permanent sources of funds such as equity share capital, debentures, long-term debt, preference share capital or retained earnings. Management must, therefore decide the extent to which current assets should be financed with equity capital and or debt capital (Uremadu, 2009).

With an optimal level of working capital, firm value can be maximized (Deloof, 2003). But, how to reach this optimal level is the very thorny in management. To see this more clearly, we would like to present how working capital relates to firm value theoretically. In 1958, Modigliani and Miller demonstrated that capital structure is unimportant in a perfect market.

However, the market is imperfect in reality. It involves different costs, taxes and bankruptcy. All these require that firms must have an optimal capital structure to fit for their situation most in order to maximize firm value. There are several ways to evaluate firm value, for example, multiple comparison analysis, discount dividend

model. The discounted cash flow model is one of the most used alternatives to evaluate firm value, which emphasizes on the current liability and current asset.

With an efficient working capital management, firms can reduce the possibility of involving in financial constraints, reduce financial cost, and avoid the risk of bankruptcy (Luo, Lee, and Hwang, 2009). Autukaite and Molay (2011) admit the importance of efficient working capital management in their study. They describe that "Companies with efficient working capital management can reduce their dependence on outside funding, and use the released cash for future investment; this will then lead to more financial flexibility".

Without efficient working capital management, millions of losses can happen on a firm annually. Shin and Soenen (1998) also provide example to show the importance of efficient working capital management. They show that in the supermarket-industry Kmart, which has a comparable capital structure as competitor Wal-Mart, went broke mainly due to poor working capital management.

Therefore, having a good knowledge on each element of working capital management can be very helpful in financial decision making. From the above review, this study leans on the optimal or efficient working capital management theory.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

For the purpose of this study, an ex-post-facto research design involving trend analyses of the audited Financial Statements of the companies between 2013 and 2017 (some gotten from www.africanfinancials.com) were made. In trend design, each set of observation is directed at different samples of the same population at various points in time (Asika 2006).

This design is used to enable the researcher carry an in-depth study of the sampled population for the selected period so as to capture the trend in the working capital management of those firms for the said periods. From the trend, observations were made as to the level of working capital maintained for those periods i.e. the liquidity and profitability positions of the companies and where any of the firms operated with a low or high level of working capital which is an indication of improper management, such firm will be advised to take some corrective measures.

3.2 Population of the Study

The population for this study consists of all the manufacturing companies in Nigeria, listed on the Nigerian Stock Exchange. However, there are about thirty six (36) of them that met this criterion irrespective of their locations.

3.3 Sample Size and Sampling Techniques

The sample frame for this study consists of all the manufacturing companies in Nigeria, listed on the Nigerian Stock Exchange. However, there are about thirty six (36) of them that met this criterion and the sample size is made up of five (5) of those firms irrespective of their locations. The sampled firms include PZ, Neimeth, Guinness, 7UP and Lafarge.

This sample was drawn using the purposive sampling technique as a means of meeting the criteria set for the companies studied in terms of getting the required information for the study. Also, it is time saving and cost effective. In other words,

the result could be obtained in a short period of time, may be more accurate and well conducted.

3.4 Sources of Data Collection

For the purpose of this study, secondary data have been collected and the data collected were from listed firms in the Nigerian Stock Exchange. The reason for choosing this source is primarily due to the better reliability of the financial statements. Due to time constraint, only manufacturing industry has been selected for the said research.

The data used for this research include annual reports and statement of accounts of 5 manufacturing companies for the years 2011-2016, retrieved from The Nigeria Stock Exchange Fact Book (various issues) published by the Nigerian Stock Exchange and the Corporate Affairs Commission (CAC). It should, however, be stated, here and now that the data used in this study are limited to those available and accessible within official statistical limitation.

3.5 Method of Data Analysis

The method of data analysis deals with model specification, data requirements and sources of data. Two analytical tools will be applied in this study, namely: descriptive statistics and multiple regression analytical models. Multiple analytical models will be used to estimate the relationship (or otherwise) between level of corporate liquidity/profitability (mirrored by return on asset) and working capital variables of influence such as inventory conversion period, debtors collection period, creditors payment period and cash conversion period.

Besides, the descriptive statistics will be used to conduct economy analysis on these financial and economic precision variables of interest. Empirical implementation of the model will make use of a cross-sectional time series data covering 2011-2016 to determine the effect of working capital management on liquidity among Nigerian quoted firms. The study will apply data on an ordinary least squares (OLS) approach to conduct our investigations and analysis.

3.5.1 Model Specification

The dependent variable of this study is profitability which is operationally defined as Return on Total Asset/Investment while the independent variables are the stock/inventory conversion period, cash conversion period, debtors' collection period and creditors' payment period (i.e. working capital components). Two control variables (size and age) are also introduced. Return on Total Assets is adopted for this study because it shows how effectively and efficiently a firm utilizes the resources (assets) at its disposal in revenue generation. In other words, it is an indication of an organization's operating efficiency.

These variables were summarized and analyzed into various components using multiple regression equation "multivariate analysis", assisted by the Statistical Package for Social Sciences (SPSS) in order to test the relationship between them. However, the validity and reliability of the hypotheses statements were tested using a type of parametric technique known as Analysis of Variance (ANOVA) at 0.05 significant levels. The model adopted is as stated below:

$$\mathbf{ROA = \beta_0 + \sum \beta_1 X_{it} + e} \text{---------- 1}$$

Where:

ROA = the measure of profitability which is return on assets employed;

β_0 = the regression constant (or intercept of the equation);

β_i = the change coefficient for X_{it} variables;

X_{it} = the different independent variables for profitability or liquidity of the corporate firms *i* and *t*.

The general least squares equation (1) above will now be restated with the specified variables thus below;

ROA = f (ICP, DCP, CPP, CCP, NLS) ---------- (2)

The final equation to be estimated from equation 2 is:

$$\mathbf{ROA = a_0 + b_1 ICP + b_2 CCP + b_3 DCP + b_4 CPP + c_1 z_1 + c_2 z_2 + e} \text{…….. 3}$$

Where:

ROA= Return On Asset;

ICP= Inventory Conversion Period;

CCP= Cash Conversion Period;

DCP= Debtors Collection Period;

CPP= Creditors Payment Period;

a_0 is constant,

b_1, b_2, b_3 and b_4 are the coefficients of ROA, ICP, CCP, DCP and CPP;

c_1, c_2, z_1, z_2 are the controllable variables (age and size (natural logarithm of total assets) of the company) and their coefficients;

e is the error term.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter present and analyzed data with the aim of examining the impact of working capital on liquidity position of manufacturing companies listed on the Nigerian stock exchange and it further interpret and discuss the result.

4.2 Data Presentation and Analysis

To analyse the liquidity position of a particular company it is essential to know the overall quantum of liquid assets maintained by a company and to find out the change in this quantum during the period under study.

Table 1: Liquidity Position of PZ Ltd.

	Current Assets	**Liquid Assets**	**Current Liabilities**	**Woking Capital (net)**	**Change in net working capital**	**Working Capital (Quick)**	**Change in Quick working capital**
2013	4110.70	3621.99	2999.31	1111.39	_	622.68	_
2014	4699.83	4057.18	3321.52	1378.31	266.92	735.66	112.98
2015	4749.27	4019.86	3131.98	1617.29	238.98	887.88	152.23
2016	4926.22	4228.37	3347.69	1578.53	-38.76	880.68	-7.21
2017	4960.04	4034.49	3750.94	1209.10	-369.43	283.55	-597.13
Mean	4689.21	3992.38	3310.29	1378.92		682.09	
Growth Rate (%)	20.66	11.39	25.06	8.79		-54.46	
S.D.	342.02	223.39	284.69	221.97		248.51	
C.V (%)	7.29	5.6	8.60	16.1		36.43	

Source: Annual Reports of PZ Ltd.

It is evident from Table 1 that current assets of PZ Ltd. increased from N 4110.70 in 2013 to N 4960.04 in 2017. On average, the company had current assets of N 4689.21 with a growth rate of 20.66%. The standard deviation of current assets was N 342.02 and the coefficient of variation was 7.29%, which shows a steady growth of current assets during the period of the study. Coefficient of variation was 7.29%, which shows a steady growth of current assets during the period of the study.

Liquid assets also increased from N 3621.99 million in 2013 to N 4034.49 million in 2017 with an average of N 3992.38 million. The growth rate of liquid assets was 11.39% showing a sufficient liquidity position during the period of the study. The standard deviation was N 223.39 million and the coefficient of variation was 5.6%, which shows less variability in liquid assets during the period under reference.

Current liabilities increased with a growth of 25.06% during the study period from N 2999.31million in 2013 to N 3750.94 million in 2017. The overall average was N 3310.29 million and the coefficient of variation was 8.6%, which is more than the growth of current assets and liquid assets evidencing more flexibility in current liabilities during the study period. Of the several measures, net working capital (NWC) itself provides the one, which indicates a 'margin of safety' or cushion of protection provided for creditors. Such a margin or cushion of protection provided by the company is exhibited in table 1. The table shows that the company had positive net working capital throughout the period of the study. The greater the amount of net working capital, the greater is the liquidity of the firm. NWC increased form N 1111.39 million in 2013 to N 1209.1 million in 2017; on average it was N 1378.92 million.

The net working capital of PZ Ltd. did not show any definite trend of rise and fall. It varied between N 1111.39 million in 2013 to N 1617.29 million in 2017. NWC registered a growth of 8.79%, which evidences that the working capital increased less than the current assets and liabilities. The standard deviation of net working capital is N 221.97 million and the coefficient of variation was 16.1%, which is more than the coefficient of variation of current assets and liabilities. With a view to indicating whether or not there was growth in NWC, a growth index, as exhibited in Table 1, has been prepared. The Table reveals that there was a growth in net working capital during the period of the study.

In fact, the measure of net working capital does not indicate the true ability to pay current debts when they become due. Net working capital being the excess of current assets over current liabilities and since these current assets comprise illiquid inventory, the measure of 'quick net working capital' (QNWC), i.e., quick/ liquid assets less current liabilities, has been adopted as more relevant than the measure of NWC. Quick assets refer to current assets less inventory. The QNWC figures computed for the company are presented in Table 1, which clearly shows that the selected company had a positive 'margin of safety' or 'cushion' of protection provided for the creditors from quick/ liquid assets throughout the period of the study. The quick net working capital of PZ Ltd. also does not show any definite trend of rise and fall. The growth rate of QNWC is declining. On average, the company had positive QNWC. Hence, the measure of QNWC evidences the capability of the company to pay current debts in all the years of the study.

Table 2: Liquidity Position of GUINNESS Ltd

Year	**Current Assets**	**Liquid Assets**	**Current Liabilities**	**Woking Capital (net)**	**Change in net working capital**	**Working Capital (Quick)**	**Change in Quick working capital**
2013	20979.96	16762.29	14337.09	6642.87	_	2425.20	_
2014	27906.18	22169.78	20022.30	7883.88	1241.01	2147.48	-277.72
2015	36901.07	29064.05	28332.90	8568.17	684.29	731.15	-1416.33
2016	42914.31	33678.85	32441.72	10472.59	1904.42	1237.13	505.98
2017	43277.86	32425.81	24938.68	18339.18	7866.59	7487.13	6250.00
Mean	34395.88	26820.16	24014.54	10381.34		2805.62	
Growth Rate (%)	106.28	93.44	73.95	176.07		208.72	
S.D.	9744.64	7181.34	7073.02	4659.31		2704.53	
C.V (%)	28.33	26.78	29.45	44.88		96.40	

Source: Annual Reports of GUINNESS Ltd.

It is evident from Table 2 that current assets of GUINNESS Ltd. increased from N 20979.96 million in 2013 to N 43277.86 million in 2017. On average, the company had current assets of N 34395.88 million with a growth rate of 106.28%. The standard deviation of current assets was N 9744.64 million and the coefficient of variation was 28.33%, which shows an excellent growth of current assets during the period of the study.

Liquid assets also increased from N 16762.29 million in 2013 to N 32425.81 million in 2017 with an average of N 26820.16 million. The growth rate of liquid assets was 93.44% showing a sufficient liquidity position during the period of the study. The standard deviation was N 7181.34 million and the coefficient of variation was 26.78%, which shows high variability in liquid assets during the period under reference.

Current liabilities increased with a growth of 73.95% during the study period from N 14337.09 million in 2013 to N 24938.68 million in 2017. The overall average was N 24014.54 million and the coefficient of variation was 29.45%, which is more than the growth of current assets and liquid assets evidencing more flexibility in current liabilities during the study period.

Of the several measures, net working capital (NWC) itself provides the one, which indicates a 'margin of safety' or cushion of protection provided for creditors. Such a margin or cushion of protection provided by the company is exhibited in table 2. The table shows that the company had positive net working capital throughout the period of the study. The greater the amount of net working capital, the greater is the liquidity of the firm. NWC increased form N 6642.87 million in 2013 to N 18339.18 million in 2017; on average it was N 10381.34 million.

The net working capital of GUINNESS Ltd. shows an increasing trend. It increased from N 6642.87 million in 2013 to N 18339.18 million in 2017. NWC registered a growth of 176.07%, which evidences that the working capital increased more than the current assets and liabilities. The standard deviation of net working capital is N 4659.31 million and the coefficient of variation was 44.88%, which is more than the coefficient of variation of current assets and liabilities and very high also, which shows that the liquidity position of the company is variable and also good during the period of the study.

With a view to indicating whether or not there was growth in NWC, a growth index, as exhibited in Table 2, has been prepared. The Table reveals that there was a growth in net

working capital during the period of the study. With a view to indicating whether or not there was growth in NWC, a growth index, as exhibited in Table 2, has been prepared. The Table reveals that there was a growth in net working capital during the period of the study.

In fact, the measure of net working capital does not indicate the true ability to pay current debts when they become due. Net working capital being the excess of current assets over current liabilities and since these current assets comprise illiquid inventory, the measure of 'quick net working capital' (QNWC), i.e., quick/ liquid assets less current liabilities, has been adopted as more relevant than the measure of NWC. Quick assets refer to current assets less inventory. The QNWC figures computed for the company are presented in Table 2, which clearly shows that the selected company had a positive 'margin of safety' or 'cushion' of protection provided for the creditors from quick/ liquid assets throughout the period of the study. The quick net working capital of GUINNESS Ltd. also does not show any definite trend of rise and fall. On average, the company had positive QNWC. Hence, the measure of QNWC evidences the capability of the company to pay current debts in all the years of the study.

Table 3: Liquidity Position of Neimeth Ltd.

Year	**Current Assets**	**Liquid Assets**	**Current Liabilities**	**Woking Capital (net)**	**Change in net working capital**	**Working Capital (Quick)**	**Change in Quick working capital**
2013	4098.72	3349.66	3558.25	540.46	-	-208.59	_
2014	5739.25	4977.14	4927.96	811.30	270.84	49.18	257.77
2015	6921.17	5948.98	5328.05	1593.12	781.83	620.93	571.74
2016	7928.26	7245.97	5950.51	1977.75	384.63	1295.46	674.54
2017	8550.50	7742.66	6341.49	2209.01	231.26	1401.17	105.71
Mean	6647.58	5852.88	5221.25	1426.33		631.63	
Growth Rate (%)	108.61	131.15	78.22	308.73		-771.74	
S.D.	1778.89	1771.60	1078.16	725.86		720.80	
C.V (%)	26.76	30.27	20.65	50.89		114.12	

Source: Annual Reports of Neimeth Ltd.

It is evident from Table 3 that current assets of Neimeth Ltd. increased from N 4098.72 million in 2013 to N 8550.50 million in 2017. On average, the company had current assets of N 6647.58 million with a growth rate of 108.61%. The standard deviation of current assets was N 1778.89 million and the coefficient of variation was 26.76%, which shows an excellent growth of current assets during the period of the study.

Liquid assets also increased from N 3349.66 million in 2013 to N 7742.66 million in 2017 with an average of N 5852.88 million. The growth rate of liquid assets was 131.15% showing a sufficient liquidity position during the period of the study. The standard deviation was N 1771.60 million and the coefficient of variation was 30.27%, which shows high variability in liquid assets during the period under reference.

Current liabilities increased with a growth of 78.22% during the study period from N 3558.25 million in 2013 to N 6341.49 million in 2017. The overall average was N 5221.25 million and the coefficient of variation was 20.65%, which is less than the growth of current assets and liquid assets evidencing less flexibility in current liabilities during the study period. Of the several measures, net working capital (NWC) itself provides the one, which indicates a 'margin of safety' or cushion of protection provided for creditors. Such a margin or cushion of protection provided by the company is exhibited in table 3. The table shows that the company had positive net working capital throughout the period of the study. The greater the amount of net working capital, the greater is the liquidity of the firm. NWC increased from N 540.46 million in 2013 to N 2209.01 million in 2017; on average it was N 1426.33 million.

The net working capital of Neimeth Ltd. shows an increasing trend. It increased from N 540.46 million in 2013 to N 2209.01 million in 2017. NWC registered a growth of 308.73%, which evidences that the working capital increased more than the current assets and liabilities. The standard deviation of net working capital is N 725.86 million and the coefficient of variation was 50.89%, which is more than the coefficient of variation of current assets and liabilities and very high also, which shows that the liquidity position of the company is variable and also good during the period of the study. With a view to indicating whether or not there was growth in NWC, a growth index, as exhibited in Table 3, has been prepared. The Table reveals that there was a growth in net working capital during the period of the study.

In fact, the measure of net working capital does not indicate the true ability to pay current debts when they become due. Net working capital being the excess of current assets over

current liabilities and since these current assets comprise illiquid inventory, the measure of 'quick net working capital' (QNWC), i.e., quick/ liquid assets less current liabilities, has been adopted as more relevant than the measure of NWC. Quick assets refer to current assets less inventory. The QNWC figures computed for the company are presented in Table 3, which clearly shows that the selected company does not have a 'margin of safety' or 'cushion' of protection provided for the creditors from quick/ liquid assets in the year 2016 after that the company had shown a good performance. The quick net working capital of Neimeth Ltd. shows an increasing trend. On average, the company had positive QNWC. Hence, the measure of QNWC evidences the capability of the company to pay current debts in all the years of the study.

Table 4: Liquidity Position of 7 Up Ltd.

Year	**Current Assets**	**Liquid Assets**	**Current Liabilities**	**Woking Capital (net)**	**Change in net working capital**	**Working Capital (Quick)**	**Change in Quick working capital**
2013	4994.61	3619.36	1501.98	3492.63	_	2117.38	_
2014	6954.47	5471.24	2582.05	4372.42	879.79	2889.19	771.81
2015	9039.91	7656.29	3766.04	5273.87	901.45	3890.25	1001.06
2016	8438.23	7640.43	3886.23	4552.00	-721.87	3754.20	-136.05
2017	8668.30	7653.35	3998.52	4669.78	117.78	3654.83	-99.37
Mean	7619.10	6408.13	3146.96	4472.14		3261.17	
Growth Rate (%)	73.55	111.46	166.22	33.70		72.61	
S.D.	1667.35	1822.23	1081.67	643.74		748.40	
C.V (%)	21.88	28.44	34.37	14.39		22.95	

Source: Annual Reports of 7 up Ltd.

It is evident from Table 4 that current assets of 7 Up Ltd. increased from N 4994.61 million in 2013 to N 8668.30 million in 2017. On average, the company had current assets of N 7619.10 million with a growth rate of 73.55 %. The standard deviation of current assets was N 1667.35 Million and the coefficient of variation was 21.88%, which shows an excellent growth of current assets during the period of the study. It is evident from Table 4 that current assets of 7 Up Ltd. increased from N 4994.61 million in 2013 to N 8668.30 million in 2017. On average, the company had current assets of N 7619.10 million with a growth rate of 73.55 %. The standard deviation of current assets was N 1667.35 Million and the coefficient of variation was 21.88%, which shows an excellent growth of current assets during the period of the study. Liquid assets also increased from N 3619.36 million in 2013 to N 6408.13 million in 2017 with an average of N 6408.13 million.

The growth rate of liquid assets was 111.46% showing a sufficient liquidity position during the period of the study. The standard deviation was N 1822.23 million and the coefficient of variation was 28.44%, which shows high variability in liquid assets during the period under reference. Current liabilities increased with a growth of 166.22% during the study period from N 1501.98 million in 2013 to N 3998.52 million in 2017. The overall average was N 3146.96 million and the coefficient of variation was 34.37%, which is more than the growth of current assets and liquid assets evidencing more flexibility in current liabilities during the study period.

Of the several measures, net working capital (NWC) itself provides the one, which indicates a 'margin of safety' or cushion of protection provided for creditors. Such a margin or cushion of protection provided by the company is exhibited in table 4. The table shows that the company had positive net working capital throughout the period of the study. The greater the amount of net working capital, the greater is the liquidity of the firm. NWC increased form N 3492.63 million in 2013 to N 4669.78 million in 2017; on average it was N 4472.14 million.

The net working capital of 7 Up Ltd. does not show any definite trend. It varied from N 3492.63 million in 2013 to N 5273.87 million in 2015. NWC registered a growth of 33.70%, which evidences that the working capital increased less than the current assets and liabilities. The standard deviation of net working capital is N 643.74 million and the coefficient of variation was 14.39%, which is less than the coefficient of variation of current assets and liabilities, which shows that the liquidity position of the company is less variable during the period of the study. With a view to indicating whether or not there was growth in NWC, a

growth index, as exhibited in Table 4, has been prepared. The Table reveals that there was a growth in net working capital during the period of the study.

In fact, the measure of net working capital does not indicate the true ability to pay current debts when they become due. Net working capital being the excess of current assets over current liabilities and since these current assets comprise illiquid inventory, the measure of 'quick net working capital' (QNWC), i.e., quick/ liquid assets less current liabilities, has been adopted as more relevant than the measure of NWC. Quick assets refer to current assets less inventory. The QNWC figures computed for the company are presented in Table 4, which clearly shows that the selected company does have a 'margin of safety' or 'cushion' of protection provided for the creditors from quick/ liquid assets throughout the period of the study. The quick net working capital of 7 Up Ltd. does not show a definite trend. In the year 2014 and 2015 the company had negative QNWC. Hence, the measure of QNWC evidences the incapability of the company to pay current debts in all the years of the study.

Table 5: Components of Working Capital of PZ Ltd.

PARTICULARS	**YEARS**				
CURRENT ASSETS	**2016-17**	**2015-16**	**2014-15**	**2013-14**	**2012-13**
INVENTORIES	925.55 (18.66%)	697.85 (14.17%)	729.41 (15.36%)	642.65 (13.67%)	488.71 (11.89%)
SUNDRY DEBTORS	3082.51 (62.15%)	2925.97 (59.40%)	2857.73 (60.17%)	2975.89 (63.32%)	2423.56 (58.96%)
CASH & BANK BALANCES	264.37 (5.33%)	587.13 (11.92%)	524.14 (11.04%)	348.23 (7.41%)	642.86 (15.64%)
OTHER CURRENT ASSETS	320.96 (6.47%)	361.12 (7.33%)	320.3 (6.74%)	381.29 (8.11%)	275.36 (6.70%)
LOANS & ADVANCES	366.67 (7.39%)	354.16 (7.19%)	317.69 (6.69%)	351.77 (7.48%)	280.2 (6.82%)
GROSS WORKING CAPITAL	**4960.06 (100%)**	**4926.23 (100%)**	**4749.27 (100%)**	**4699.83 (100%)**	**4110.69 (100%)**

Source: Annual Reports of PZ Limited

The components or compositions of gross working capital in percentage form have been prepared and presented in table 5 for PZ Ltd. to examine in which component the gross working capital funds are locked up and to find out the factors responsible for significant changes in the working capital of different year. It can be observed that the working capital consisted of inventory, sundry debtors, cash & bank balances, other current assets and loans and advances.

Out of the five components of working capital, the component, namely, sundry debtors contributed highest to the working capital. It varied from` 58.96% in 2013 to 63.32% in 2014 fluctuating one year to another, in the year 2015 it again increased to 62.15% which evidences that the working capital blocked up due to increases in debtors. This may also indicate a liberal credit policy with chances of bad debts and collection charges.

Inventory occupied the second position in the gross working capital; it shows an increasing trend from11.89% in 2013 to 18.66% in 2017 except the year 2016 in which it declined. The third rank goes to cash & bank balances whose share in gross working capital shows a fluctuating trend it reduces from 15.64%in 2013 to 5.33% in 2017. Loans & advances and other current assets contributed almost the same to gross working capital and shows a fluctuating trend it varied from 6.82% to 7.39% in 2017 its maximum contribution was in 2013 with 7.48% and other current assets contribution was 6.7% in 2013, in 2014 it increased to highest of 8.11 % and it was lowest to 6.47% in 2017.

Table 6: Components of Working Capital of GUINNESS Ltd.

PARTICULARS	**YEARS**				
CURRENT ASSETS	**2016-17**	**2015-16**	**2014-15**	**2013-14**	**2012-13**
INVENTORIES	10963.03 (21.29%)	9235.46 (21.51%)	7837.02 (21.24%)	5736.4 (20.71%)	4217.67 (20.10%)
SUNDRY DEBTORS	27354.62 (53.12%)	20688.75 (48.19%)	15975.5 (43.29%)	11974.87 (43.22%)	9612.81 (45.82%)
CASH & BANK BALANCES	9630.15 (18.70%)	9790.08 (22.80%)	10314.67 (27.95%)	8386.02 (30.27%)	5808.91 (27.69%)
OTHER CURRENT ASSETS	309.63 (0.60%)	406.85 (0.95%)	350.21 (0.95%)	421.09 (1.52%)	199.7 (0.95%)
LOANS & ADVANCES	3237.31	2813.67	2423.67	1186.34	1140.87

	(6.29%)	(6.55%)	(6.57%)	(4.28%)	(5.44%)
GROSS WORKING CAPITAL	**51494.74 (100%)**	**42934.81 (100%)**	**36901.07 (100%)**	**27704.72 (100%)**	**20979.96 (100%)**

Source: Annual Reports of GUINNESS Ltd.

The components or compositions of gross working capital in percentage form have been prepared and presented in table 6 for GUINNESS Ltd. to examine in which component the gross working capital funds are locked up and to find out the factors responsible for significant changes in the working capital of different year. It can be observed that the working capital consisted of inventory, sundry debtors, cash & bank balances, other current assets and loans and advances. The components or compositions of gross working capital in percentage form have been prepared and presented in table 6 for GUINNESS Ltd. to examine in which component the gross working capital funds are locked up and to find out the factors responsible for significant changes in the working capital of different year. It can be observed that the working capital consisted of inventory, sundry debtors, cash & bank balances, other current assets and loans and advances.

Out of the five components of working capital, the component, namely, sundry debtors contributed highest to the working capital. It was on increase almost every year except the year 2014 in which it declined otherwise it increased from 45.82% in 2013 to 53.12% in 2017, which evidences that the working capital blocked up due to increases in debtors.

This may also indicate a liberal credit policy with chances of bad debts and collection charges. Inventory occupied the second position in the gross working capital, contributes the same almost every year with slight variation at decimal places. It was 20.10% in 2013 and 21.29% in 2017. The third rank goes to cash & bank balances whose share in gross working capital reduces from 30.27%in 2014 to 18.7% in 2017. Loans & advances also do not show any definite trend it varied from 5.44% in 2013 to 6.29% in 2017; it was lowest with 4.28% contribution in 2014 to and 6.57% in 2015. The contribution of other current assets is around 1% every year.

Table 7: Components of Working Capital of Neimeth Ltd.

PARTICULARS	**YEARS**				
CURRENT ASSETS	**2016-17**	**2015-16**	**2014-15**	**2013-14**	**2012-13**
INVENTORIES	807.83 (9.45%)	1533.52 (19.3%)	972.2 (14.05%)	762.11 (13.31%)	749.05 (18.28%)
SUNDRY DEBTORS	4173.33 (48.81%)	3302.34 (41.62%)	3458.31 (49.97%)	3432.8 (59.96%)	2224.28 (54.27%)
CASH & BANK BALANCES	1275.04 (14.91%)	1853.44 (23.36%)	1444.9 (20.88%)	913.09 (15.95%)	463.62 (11.31%)
OTHER CURRENT ASSETS	888.29 (10.39%)				
LOANS & ADVANCES	1406 (16.44%)	1244.9 (15.69%)	1045.76 (15.11%)	617.32 (10.78%)	661.76 (16.15%)
GROSS WORKING CAPITAL	**8550.5 100%**	**7934.21 100%**	**6921.17 100%**	**5725.32 100%**	**4098.72 100%**

Source: Annual Reports of Neimeth Ltd

The components or compositions of gross working capital in percentage form have been prepared and presented in table 7 for Neimeth Ltd. to examine in which component the gross working capital funds are locked up and to find out the factors responsible for significant changes in the working capital of different year. It can be observed that the working capital consisted of inventory, sundry debtors, cash & bank balances, other current assets and loans and advances.

Out of the five components of working capital, the component, namely, sundry debtors contributed highest to the working capital. It does not show any definite trend it varied from 54.27% in 2013 to 48.81% in 2017; it was highest 59.96% contribution in 2014 and lowest 41.62% contribution in 2016 which evidences that the working capital blocked up due to

increases in debtors. This may also indicate a liberal credit policy with chances of bad debts and collection charges. Inventory also does not show any definite trend, it declined from 18.28% in 2013 to 9.45% in 2017 it was highest 19.3 % in 2016. Cash & bank balances show an increasing trend except the year 2017 in which it falls. It increases from 11.31% in 2013 to 23.36% in 2016. It declined in 2017 to 14.91%. Loans & advances also do not show any definite trend it varied from 16.15% in 2013 to 16.44% in 2017; its contribution was lowest 10.78% in 2014 and highest 16.44% in 2017. The contribution of other current assets was 10.39% in 2017.

Table 8: Components of Working Capital of 7 Up Ltd.

PARTICULARS	**YEARS**				
CURRENT ASSETS	**2016-17**	**2015-16**	**2014-15**	**2013-14**	**2012-13**
INVENTORIES	1,014.95 (11.71%)	797.8 (9.45%)	1,383.62 (15.31%)	1,483.23 (21.33%)	1,375.25 (27.53%)
SUNDRY DEBTORS	2283.90 (26.35%)	2,986.81 (35.40%)	4,745.14 (52.49%)	3,306.59 (47.55%)	1,970.78 (39.46%)
CASH & BANK BALANCES	431.06 (4.97%)	599.22 (7.10%)	212.4 (2.35%)	875.5 (12.59%)	351.39 (7.04%)
LOANS & ADVANCES	4,938.39 (56.97%)	4,054.40 (48.05%)	2,698.75 (29.85%)	1,289.15 (18.54%)	1,297.19 (25.97%)
GROSS WORKING CAPITAL	**8,668.30 100%**	**8,438.23 100%**	**9,039.91 100%**	**6,954.47 100%**	**4,994.61 100%**

Source: Annual Reports of 7 Up Ltd.

The components or compositions of gross working capital in percentage form have been prepared and presented in table 8 for 7 Up Ltd. to examine in which component the gross working capital funds are locked up and to find out the factors responsible for significant changes in the working capital of different year. It can be observed that the working capital

consisted of inventory, sundry debtors, cash & bank balances, other current assets and loans and advances.

Out of the five components of working capital, the component, namely, Loans & Advances contributed highest to the working capital. It does not show any definite trend it varied from 18.54% in 2014 to 56.87% in 2017, in 2013 it was 25.97% which evidences that the working capital blocked up due to increases in loans & Advances. Inventory also does not show any definite trend, it declined from 27.53 % in 2013 to 9.45% in 2016, in 2017 it again raised to 11.71%. Sundry debtors also do not show any definite trend it had significantly declined to 26.35% in 2017 from 39.46% in 2015; it was highest with 52.49% in 2015 and lowest with 35.4% in 2016. Cash & bank balances also do not show any definite trend it was highest with 12.59% in 2014 and with a lowest percentage of 2.35% in 2015. It fluctuates from 7.04% in 2013 to 4.97% in 2017.

4.3 Estimation of Result

The results of descriptive and quantitative analysis from regression of our model equation 1 are presented in Tables 9 and 10 below.

Table 9: Modeling ROA by OLS (with 40 observations included)

Variable	**Coefficient**	**Std. error**	**t-statistic**	**Prob.**
C(intercept)	0.056086	0.142168	0.394507	0.6957
ICP	0.003156	0.000870	3.628678*	0.0009
DCP	0.000676	0.000579	1.168230	0.2508
CPP	-0.002087	0.000587	-3.556710*	0.0011
CCP	-0.002699	0.000706	-3.823419*	0.0005
NLS	0.003615	0.007981	0.452983	0.6534

R^2 = 36.66%; Adj. R^2 = 27.35%; Durbin-Watson Stat = 2.06 F-Statistic = 3.935859; Prob (F-statistic) = 0.006363*

Table 10: Modeling ROA by OLS (with 50 observations included)

Variable	Coefficient	Std. error	t-statistic	Prob.
C(intercept)	0.106245	0.151794	0.699930	0.4877
ICP	0.001731	0.000834	2.076774**	0.0437
DCP	0.000418	0.000578	0.7235	0.4731
CPP	-0.002030	0.000634	-3.20153*	0.0025
CCP	-0.001780	0.000737	-2.413563**	0.0200
NLS	0.003245	0.008452	0.383947	0.7029

R^2 = 32.63%; Adj. R^2 = 24.98%; Durbin-Watson = 2.17; F-Statistic = 4.263093; Prob (F-statistic) = 0.003013*

Looking at both Tables 9 and 10, results of model equation 1 estimated using the 40 observations and 50 observations, respectively; reveal that the descriptive statistics (R^2, F-statistic and DW-Statistic) are moderately significant being relatively free from estimation problems. With DW-Stat results of 2.06 and 2.17 in Tables 1 and 2, respectively, the model can be said to be free from error of multicollinearity. Quantitatively, the estimates of ICP and NLS bear the right signs while DCP, CPP and CCP exhibited wrong signs and the model itself is highly explanatory.

Our observations from Tables 9 and 10 which included 40 and 50 observations, respectively, when the model was estimated shows:

1. That CCP (cash conversion periods) has wrong sign (-) and that it is the most significant precision variable in influencing corporate liquidity, and therefore leads profits in Nigeria. It ranked 1st and 2nd in Tables 1 and 2 respectively, in impacting on firms' profits in Nigeria. Two plausible reasons why it assumed negative effect on liquidity are (1) companies have not been promptly collecting cash from credit sales made or (2) that collected cash (liquidity) were not being effectively and efficiently managed via re-investment in profitable projects (opportunities) chancing out.
2. We also discovered that CPP (creditors payment period) in both Tables 1 and 2 above had wrong signs (-), and it is very significant in influencing liquidity in Nigeria as it ranks the most influential variable in impacting on profits in Table 10, and 3rd in Table 9, respectively. All these go to show that (i) either delayed payments were left

idle not invested for increased yields (profits); or (ii) that delayed payments have made defaults from credit purchases, hence most firms cannot meet up demands for supplies of goods ordered by customers due to shortage of stock of raw materials as such reducing sales turnover or volume and profits there-from.

3. We equally observed that ICP (Inventory conversion period) had the right signs in both Tables 1 and 2 results and it is ranked 2nd and 3rd in Tables 9 and 10, respectively, in impacting on profits. Therefore it is the second most significant precision factor in influencing corporate liquidity among manufacturing companies in Nigeria. That it is positively signed portends that there exists high sales turnover potentials among real asset goods or firms in Nigeria. It then implies that Nigeria has large sales and buyers' market yearning for patronage or rather to be saturated with goods by MNCs in the emerging markets of 21st century world.
4. We also found out that DCP (debtors collection period) had wrong (+) sign but it is significant in impacting on corporate profits among manufacturing companies in Nigeria.
5. Finally, we discovered that NLS (natural logarithms of sales, which are a mirror for corporate size, had the right (+) signs in both Tables 9 and 10) however, it is not significant in influencing liquidity among quoted firms in Nigeria. NLS measures *corporate size* on the assumption that big companies will command high sales volume or the market. Size here is seen in the context of commanding large market or sales volume, since if there exist high sales turnover, it will definitely lead to rise in firm's profits. That it (NLS) is not significant, judging from results of our tests, would mean that corporate size viewed from different perspective, may not necessarily portend effective working capital management or liquidity management for corporate outfits, for that matter. At times size may not command high sales volume or turnover per unit of quantity produced and sold as per firm size.

4.3 Test of Hypotheses

Table 11: Descriptive Statistics of the mean score of each company and the overall mean for all Research Variables

Variable	PZ	Neimeth	Guinness	7 Up	Lafarge	Overall Mean	Std. Deviation	N
ROA	0.4177	0.2077	0.9177	0.5093	0.7290	0.5563	0.31678	25
ICP	4.9993	24.0414	5.3391	3.8054	4.8872	8.6145	8.20202	25
DCP	1.2306	8.1253	0.8925	1.5166	1.5240	2.3652	3.04253	25
CPP	0.2398	2.3999	1.6197	1.3396	1.0182	1.3234	0.84830	25
CCC	5.9966	29.7668	4.6119	3.9823	4.3610	9.7437	10.62253	25
AGE	2.4000	2.0400	1.8400	0.8800	1.9600	1.8240	0.52128	25
SIZE	0.4256	0.3786	0.4342	0.4169	0.4336	0.4178	0.2132	25

Source: Field data, 2014

This Descriptive Statistics show that ROA (Returns on Assets) MEAN is 0.5563 with std. Deviation 0.31678; ICP (Inventory Conversion Period) MEAN is 8.6145 with std. Deviation of 8.20202, et ce tera. The regression test is explained later in the study.

Hypothesis One

H_0: Proper management of working capital operating cycle does not influence the organization's liquidity.

H_a: Proper management of working capital operating cycle does significantly influence the organization's liquidity.

Decision Rules

In determining the type of relationship that exists between the variables of this study, the following rules are applicable. These rules served as guidelines for deciding which hypothesis to accept after the test- statistics at the 0.05 level of significance.

If Fc <Ft, accept Ho and reject Hi

If Fc >Ft, accept Hi and reject Ho

Table 12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.494[a]	.244	.212	.2813	1.571

a Predictors: (Constant), ICP

Table 13: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.589	1	.589	7.441	.012[a]
	Residual	1.820	23	.079		
	Total	2.408	24			

a Predictors: (Constant), Mean ICP

b Dependent Variable: Mean ROA

Table 14: Coefficients [a]

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	Std. Error	Beta		
1	(Constant)	.721	.082		8.740	.000
	ICP	.019	.007	-.494	-2.728	.012

a Dependent Variable: ROA

Thus, R, i.e. the correlation coefficient is -0.494 which indicates a moderate but inverse relationship between ICP (INDEPENDENT VARIABLE) and ROA (DEPENDENT VARIABLE). R square (R2 = 0.244) shows that 24.4% of the changes in ROA can be explained by ICP. To further explain this result, ROA was influenced by many factors or constants out of which 24.4% was from ICP. The negative sign also signifies that an increase in one variable will lead to an inverse change in the other variable and vice-versa.

The result at the ANOVA table above shows that the calculated F-value (7.441) at significance level of 0.012 is greater than the table value of 4.28. Thus, the overall test statistics is significant. The alternative hypothesis is accepted which states that there is significant relationship between Inventory Conversion Period and Liquidity. It is possible to make the assumption that a decrease in inventory conversion period will foster an opportunity to experience profit in business with time. This is because; the Nigerian market environment or economy is faced with many factors that impede the speed of having a huge return on assets. However, proper initiative, planning and resource (capital) management will pave way to return on asset. Therefore, time is a great resource anyway.

Hypothesis Two

H_0: There is no significant relationship between inventory conversion period and company's liquidity.

H_0: There is a significant relationship between inventory conversion period and company's liquidity.

Table 15: Coefficient of Correlations

		ROA	**ICP**	**DCP**	**CPP**	**CCC**	**AGE**	**SIZE**
Pearson Correlation (R)	ROA	1.000	-.494	-.552	-.230	-.514	-.123	.605
Sig. (1-tailed)	ROA	.	0.006	0.002	0.134	0.004	0.280	0.001
N	ROA	25	25	25	25	25	25	25

The table above shows the level of strength in the relationship between ROA and individual working capital/operating cycle management (ICP, DCP, CPP, and CCC) and the age and size of the selected companies. There is significant relationship between ROA and ICP, DCP and CCC with P- value of 0.006, 0.002 and 0.004 respectively. The negative sign reveals the direction of effects which is opposite in nature. It is also clear that an increase in size of the company (0.605) leads to an increase in ROA.

Table 16: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.657[a]	.432	.243	.27563	1.571

a Predictors: (Constant), SIZE, AGE, CPP, ICP, DCP, CCC

Thus, R, i.e. the correlation coefficient, is 0.657 which indicates a slightly strong and positive relationship between ROA (DEPENDENT VARIABLE) and ICP, DCP, CCC, and CPP (INDEPENDENT VARIABLES). R square (R2 =-0.432) shows that by 43.2% the effect of ICP, DCP, CPP, and CCC on ROA may be predicted by changes. To further explain this result, ROA was influenced by some factors or constants out of which 43.2% was from ICP, DCP, CCC, and CPP. This effect is respectable.

Table 17: Coefficients [a]

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	Std. Error	Beta		
1	(Constant)	-5.981	3.772		-1.586	.130
	ICP	-.063	.141	-1.643	-.449	.659
	DCP	-.070	.141	-.669	-.494	.627
	CPP	.110	.153	.296	.721	.480
	CCC	.078	.136	2.627	.576	.572
	AGE	-.133	.135	-.219	-.982	.339
	SIZE	15.754	8.922	1.060	1.766	.094

a Dependent Variable: ROA

The standardised coefficients are -1.643,-0.669, 0.296, 2.627, and -0.219 for ICP, DCP, CPP, CCC and AGE respectively, their p- values standing at 0.659, 0.627, 0.480, 0.572 and 0.339 which are not significant at 1%,5% and 10% levels, signalling the fact that decreases and increases in ICP, DCP, CPP, CCC do not significantly affect liquidity. The control variable AGE shows a negative insignificant effect and company size also shows a positive but significant effect on profit. The model is explained below:

ROA= -5.981-0.063ICP-0.070DCP+0.110CPP+0.078CCC+e

Furthermore, the combined predictable power of the model or the adjusted coefficient of multiple determinations (adj.R2) indicates that about 24.3% of the changes in ROA are explained by the independent variables. Besides, the specification of this model is not fair as signalled by the F value (ANOVA table) of 2.283 which is not significant at α =5% when compared with the critical value (calculated F) of 2.66. Based on the above result, the null hypothesis is accepted. Hence, it is concluded that management of the operating cycle of an organisation does not significantly influence liquidity of listed companies in Nigeria.

4.4 Discussion of Results

Based on the ratios calculated for the companies overtime (See Appendix), it was observed that some of the companies actually had a longer collection period and shorter payment period. Also, some firms accumulated large volume of stocks which took them a longer period of time to convert to sales thereby leading to a longer operating (cash) conversion cycle, low quick assets ratio, long collection period, as well as lower liquidity. This is evident in the test of hypothesis one which revealed a moderate inverse relationship between inventory conversion period and liquidity.

Thus, it is very vital for firms to try as much as possible to manage their operating cycle as it impacts the profits of the company such that, the longer the operating cycle, the more risky and less profitable the firm becomes. Again, some of the companies are not liquid enough to settle their short term maturing obligations as they fall due and as such the company is perhaps prone to borrowing (external credit facilities).

Moreover, some of the companies are not doing well in terms of liquidity. In other words, some firms are seen to be highly liquid and profitable while some others are liquid but, not profitable. Yet still, some others are neither liquid nor profitable due to the fact that they cannot properly (effectively and efficiently) utilize their available scare resources in order to

generate revenues. Also, these firms cannot pay/settle their short term maturing obligations out of their current assets or liquid assets perhaps, due to the strong relationship that exist between each of the components such that, the current assets should be twice the current liabilities of the company. Anything short of that is not an evidence of liquidity and liquidity which in turn is a sign of ineffective and inefficient management of working capital.

The regression analysis used at 0.05% significance level indicated that there is a significant inverse relationship between some working capital management components (ICP, DCP and CCC) and liquidity of manufacturing companies. This means that the higher the (ICP, DCP and CCC, the lower the liquidity positions of manufacturing companies and vice versa.

Also, it was noticed from the analysis that the size of the company has a lot to do with its liquidity such that as the company increases in size, the ROA also increases and vice versa. But age has a negative insignificant effect on ROA. It can, therefore, be said that out of the components of working capital, only the CPP has an insignificant effect on the profits of the company. However, the combined power of the model indicates that, working capital management (measured by its components) affects the company's liquidity by 24.3% which is not significant. Hence, it can be deduced that working capital management has no significant effect on liquidity of listed manufacturing companies in Nigeria. However, each of the working capital components affects liquidity at varying levels (rates).

The empirical findings of this study are consistent in that, the inventory conversion period (days in inventory), debtors collection period, creditors payment period and cash conversion cycle are inversely related to liquidity. The findings of this study, however, differ from other studies as it reveals an insignificant relationship. This finding also indicates a negative relationship between average days of account receivable and liquidity.

By implication, increases or decreases in any of these variables affect the firm's profits in an opposite direction. Hence, there is need for effective management of these components for any company that wants to increase the firm's value in terms of liquidity. However, management of the cash flows is the core aspect of management and is very essential in the organisation.

The current assets, liquid assets, current liabilities, net working capital and quick net working capital of GUINNESS and 7 Up Ltd. shows a positive growth rate which indicates that the liquidity position of the company was safe during the period of study except PZ Ltd. and

Neimeth Ltd whose quick net working capital growth rate is negative which indicates towards unsound liquidity position. The major components of current assets of all the companies are Inventories and Sundry debtors except 7 Up Ltd. whose major component is loans and advances.

The maximum average of current ratio was of 7 Up Ltd. but its coefficient of variation is also highest which indicates that there was higher flexibility in the liquidity position of the company. The coefficient of variation of PZ Ltd. is less which indicates better stability in the liquidity position of the company after that comes Neimeth Ltd. According to liquid ratio 7 Up Ltd. is showing highest liquidity. According to coefficient of variation PZ Ltd. is showing lesser flexibility in liquidity position and Neimeth Ltd. is showing the highest. The coefficient of variation of GUINNESS Ltd. and 7 Up Ltd. was also high.

According to Quick ratio the average of 7 Up Ltd. shows maximum liquidity strength. The highest variability in liquidity position was of Neimeth Ltd with 26.7% the second position of 7 Up Ltd after that PZ ltd. The coefficient of variation of GUINNESS Ltd was lowest which indicates consistency in liquidity position.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The results from the analysis of the audited financial statement as presented above is from the sampled five manufacturing companies to establish the relationship between the liquidity management in the selected companies and their working capital.

Descriptive analysis using the mean and standard deviation was used to determine the extent of liquidity management in the selected companies in terms of their credit policy, which measure by the difference between the number of days it takes the company to recover it account receivables and the number of days under which the company is expected to settle it creditor, their cash flow management, measured by the extent to which the company's cash flow from operating activities can settle it current liabilities and the their cash conversion cycle which measures the time lag between investment in raw material and it converted to cash.

Empirical results of this study show a significant negative relationship between accounts receivables (day's sales in receivables) and corporate liquidity. This negative relationship indicates that slow collection of accounts receivables is correlated with low liquidity. It suggests that corporate managers can improve liquidity by reducing the credit period granted to their customers.

The combined descriptive statistics for all the companies show a fair liquidity management. The average debtor's collection period of the companies (251 days) is shorter than the average creditor's payment period (318 days). The companies could also settle 211 % of their current liability from their operating activities. The companies have an average time lag of 673 to turn their investment in raw material to cash. This period seems too long and could have a negative effect on liquidity.

Findings from the two hypotheses tested indicate that proper management of working capital operating cycle does significantly influence the organization's liquidity and there is a significant relationship between inventory conversion period and company's liquidity.

Also the findings of the data analysed is summarized company wise as under:

PZ Ltd.

1. The current assets, liquid assets, current liabilities, net working capital shows a positive growth rate but the growth rate of quick net working capital is in negative which indicates that the absolute liquidity position of the company was not safe.
2. The major component of current assets was Sundry Debtors and Inventories which indicates that the major portion of liquid funds is blocked in these two whose convertibility into cash is considered to be low.
3. Current ratio of the company indicates towards consistency in liquidity position of the company.
4. Quick ratio also indicates towards consistency in liquidity position.
5. Super Quick ratio indicates a little poor performance of the company.

GUINNESS Ltd.

1. The current assets, liquid assets, current liabilities, net working capital and quick net working capital shows a positive growth rate which indicates that the liquidity position of the company was safe during the period of study.
2. The major component of current assets was Sundry Debtors and Inventories which indicates that the major portion of liquid funds is blocked in these two whose convertibility into cash is considered to be low.
3. Current ratio of the company indicates towards variability in liquidity position of the company as its coefficient of variation is second highest.
4. Quick ratio also indicates towards inconsistency in liquidity position.
5. The absolute liquidity position of the company on the basis of super quick ratio is strong.

NEIMETH Ltd.

1. The current assets, liquid assets, current liabilities, net working capital shows a positive growth rate but the growth rate of quick net working capital is in negative which indicates that the absolute liquidity position of the company was not safe.
2. The major component of current assets was Sundry Debtors and Inventories which indicates that the major portion of liquid funds is blocked in these two whose convertibility into cash is considered to be low.

3. Current ratio of the company indicates towards consistency in liquidity position of the company.
4. Quick ratio of the company shows greater flexibility as its coefficient of variation was highest.
5. Super Quick ratio of the company shows greater flexibility as its coefficient of variation was highest.

7 Up Ltd.

1. The current assets, liquid assets, current liabilities, net working capital and quick net working capital shows a positive growth rate which indicates that the liquidity position of the company was safe during the period of study.
2. The major component of current assets was Loans & Advances and Sundry Debtors in which liquid funds of the company is tied.
3. The current ratio of the company indicates greater flexibility as its coefficient of variation is highest.
4. Quick ratio of the company indicates consistency in liquidity position of the company.
5. Super quick ratio of the company indicates greater flexibility in liquidity position of the company.

5.2 Conclusion

Effective cash optimisation is critical to all organisations, especially in a tough economy. Cash is the lifeblood of organisations. An organisation having a proper set of liquidity management policies and procedures will improve profits, reduce the risk of corporate failure and significantly improve its chances of survival. It also provides a strategic advantage especially in difficult economic times. Effective liquidity management will enable an organisation to derive maximum benefits at minimal cost. Therefore, in this period of ravaging global financial crisis, working capital management becomes paramount and very crucial in maintaining both liquidity and profitability of the corporate enterprise. Besides, since Nigeria has a beckoning large market size that promises the highest return on investment (ROI) in the world today.

In conclusion, the study has empirically established that a number of some key variables affect corporate liquidity and liquidity among manufacturing firms in

Nigeria. These include inventory conversion period (ICP), cash conversion period (CCP) and corporate size or sales (NLS). These factors will either positively affect liquidity depending on how effective and efficient firm's liquidity management has been piloted by corporate finance managers and that proper management of working capital operating cycle does significantly influence the organization's liquidity and there is a significant relationship between inventory conversion period and company's liquidity.

5.3 Recommendations

The following are recommendations arising from the findings of the study on factors determining liquidity and working capital management among corporate firms in Nigeria.

1) Companies should hasten up collection of cash for (from), credit sales made to customers. Besides, cash collected should be reinvested into short-term investments (securities) to generate profits, and funds left idle in the cash till or excessive liquidity is costly and do not lead to growth in yields or liquidity.

2) Since creditors' payment period is also significant in affecting corporate liquidity and working capital, financial managers should ensure that idle funds are immediately turned productive via repeated investments in short-term assets. They should not delay payments for credit purchases to creditors in order not to damage company's reputation and goodwill which usually result in cut off of supplies outlets for new materials thereby leading to shortages and non- supplies of orders from customers.

3) Since inventory (stock) conversion period (ICP) is significant in influencing corporate liquidity among manufacturing firms in Nigeria, we thus recommend proper injection of Foreign Direct Investments (FDIs), International Portfolio Investments (IPIs), Foreign Private Investments (FPIs) into the Nigerian market due to its potentials for high sales turnover as well as high yields.

4) The study also established distorted and non-significant relationship of debtors' collection period (DCP) with the level of corporate liquidity cum working capital among quoted companies in Nigeria. Hence, we recommend that firms should be very apt in collecting proceeds of credit sales from their debtors as good working capital management urges for quick cash collection from credit sales for quick reinvestment

in short-term securities in order to boost liquidity. Otherwise, if slack develops it can lead into bad debts and credit defaults in future via accumulated credit sales and accounts receivables not followed up for prompt collection of cash.

5) The poor performing firms should adequately plan and control their operations, adjust all the short falls as noted from the financial ratios calculated and bring them to standard so as to enhance management of each working capital component and thus improve the organizations' liquidity.

6) Finally, Nigerian firms should endeavor to manage their size with a view to maximization of shareholder wealth and liquidity by cutting costs and trimming down their sizes in a bid to raise their profits and maintain liquidity at all times, and even in this critical period of global financial crisis.

5.4 Suggestion for Further Research

The correlation of liquidity and working capital management is extensive. Thus, it is impossible to exhaustively study the subject in a single report. Consequently, even after this effort, there are still numerous areas that are open for study. In addition, the findings of this study imply areas that need further study.

The scope of this study covers the operations of only 5 manufacturing companies listed in the floor of the Nigerian Stock Exchange for the period of five years. Giving enough time and resources it is possible to attempt to study the entire listed manufacturing companies in Nigeria over a long period of time and using different statistical methods in order to have a more comprehensive result.

The analyses and findings in this study show that there are other factors than the independent variables used for this study that affect corporate liquidity. Research could be conducted to identify those other factors so as enhance the profit generating capabilities of the companies.

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