

**A COMPARATIVE STUDY OF THE WORKING CAPITAL POLICIES OF  
GOIL AND TOTAL COMPANY LIMITED, GHANA**

**BY**

**KNUST**

**VIVIAN OSEI TUTU**

A thesis submitted to Department of Accounting and Finance  
Kwame Nkrumah University of Science and Technology, School of Business  
in partial fulfilment of the requirements  
for the degree of

**MASTERS OF BUSINESS ADMINISTRATION  
(FINANCE- OPTION)**

Department of Accounting and Finance,  
College of Humanities and Social sciences

August, 2016

## DECLARATION

I hereby declare that this submission is my own work and that to the best of my knowledge, it contains no materials previously published by another person or material which has been accepted for the award of any other degree of the university, except where due acknowledgement has been made in the text.

# KNUST

Vivian Osei Tutu .....

(PG 2116614)

Signature

Date

Student's Name  
Certified by:

Dr. Daniel Domeher .....

Signature

Date

Supervisor's Name

Certified by:

Dr. Daniel Domeher .....

Head of Dept, Name

Signature

Date

## DEDICATION

To God be the glory great things He has done. This work is dedicated with all my love to my late father Very Rev. David Osei Tutu-may his soul rest in peace, my God fathers Mr. Augustine Boateng and Mr. Joshua Kwabena Duodu of Goil for their support and love, and last but not the least my big brother H.W Charles Osei Tutu.

# KNUST



## ACKNOWLEDGEMENTS

I want to use this platform to say a very hearty thank you to God Almighty for the strength and energy to complete this project. I am also heartily thankful to my supervisor, Dr. Domeher, for his love, care, support, encouragement and funny jokes which were stress reliefs for me during the course of this project. Thank you for being there to give me all the information and help I needed to understand this subject area better. I would also like to thank Mr. Justice Jacob Appiah-kubi for all the support and advice he rendered to throughout the project. I am grateful to you all for your involvement in my life and the encouragement and guidance you gave me to complete my tertiary education and to produce a successful project. God Richly Bless You.

Dhanyavaad!!!



## ABSTRACT

The study mainly aimed at investigating the trend of inventory conversion period, receivables conversion period, payables deferral period, cash conversion cycle as a measure of working capital management and the working capital management strategy being followed by GOIL and Total Petroleum Ghana. The study mainly used secondary source of data studying the financial statements for a five year period from 2011-2015. The study revealed that GOIL had an average inventory conversion period of 5.76 days with receivables conversion period of 40.78 days. The payables deferral period was 53.87 days. Total Petroleum Ghana also had 4.36 days, 42.78 days and 53.15 days respectively for inventory, receivables and payables conversion periods. A negative cash conversion cycle was recorded both GOIL and Total Petroleum Ghana. The main types of products offered by GOIL are fuels and special products. Total Petroleum Ghana offers these same products apart from liquefied petroleum gas (LPG). The main customers of the companies were identified as dealers, consumers and resellers while the main suppliers are TOR, chase petroleum and Cyrus. The average current asset to total assets ratio for GOIL was 0.65 while that of Total Petroleum Ghana was 0.68. The current liability to total assets ratio was averagely 0.70 for GOIL whilst that of Total Petroleum Ghana was 0.68. Total Petroleum Ghana pursued a conservative and aggressive (mixed) working capital management policy (investment and financing respectively) due to its percentage of commitment of current assets and current liabilities to total assets. Similarly, GOIL pursue same strategies in terms of financing and investment policies but slightly ahead of Total.

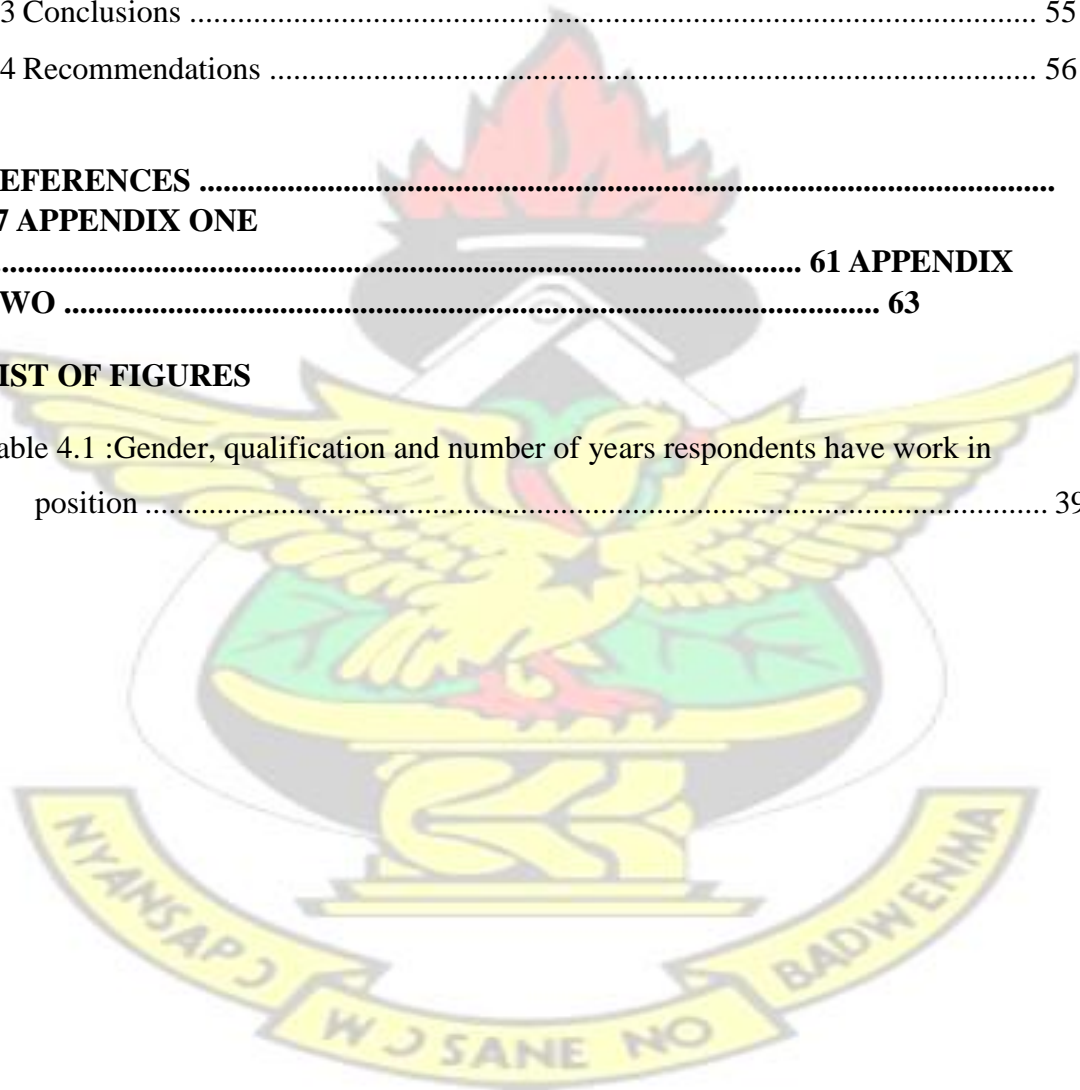
There are significant differences in the cash conversion cycles of two companies. However, there are no significant differences in the working capital management strategy or policy pursued by the two oil marketing companies listed on the stock exchange. The study recommended that the companies reduce the payables deferral periods in order to enjoy some trade discounts. Again, future research should look at more than one company for a longer period of time so that a regression analysis conducted to determine the effect of working capital management on profitability of firms.

## TABLE OF CONTENTS

DECLARATION .....	ii
DEDICATION .....	iii
ACKNOWLEDGEMENTS .....	iv
ABSTRACT .....	v
TABLE OF CONTENTS .....	vi
LIST OF FIGURES .....	viii
LIST OF TABLES .....	ix
<b>CHAPTER ONE .....</b>	
<b>1</b>	
<b>INTRODUCTION.....</b>	
<b>1</b>	
1.1 Background of the study .....	1
1.2 Statement of the problem .....	4
1.3 Objectives of the study.....	5
1.4 Research questions .....	5
1.5 Scope of the study .....	6
1.6 Justification of the study .....	6
1.7 Organization of the study .....	6
<b>CHAPTER TWO .....</b>	
<b>8 LITERATURE REVIEW</b>	
<b>..... 8</b>	
2.1 Introduction .....	8
2.2 Meaning of Working Capital .....	8
2.3 Types of Working Capital .....	9
2.3.1 (A) Concept Basis: .....	9
2.3.2 (B) Requirement Basis .....	9
2.3.3 Working capital in the balance sheet .....	10
2.4 Managing working capital .....	11
2.4.1 Management of inventory .....	11

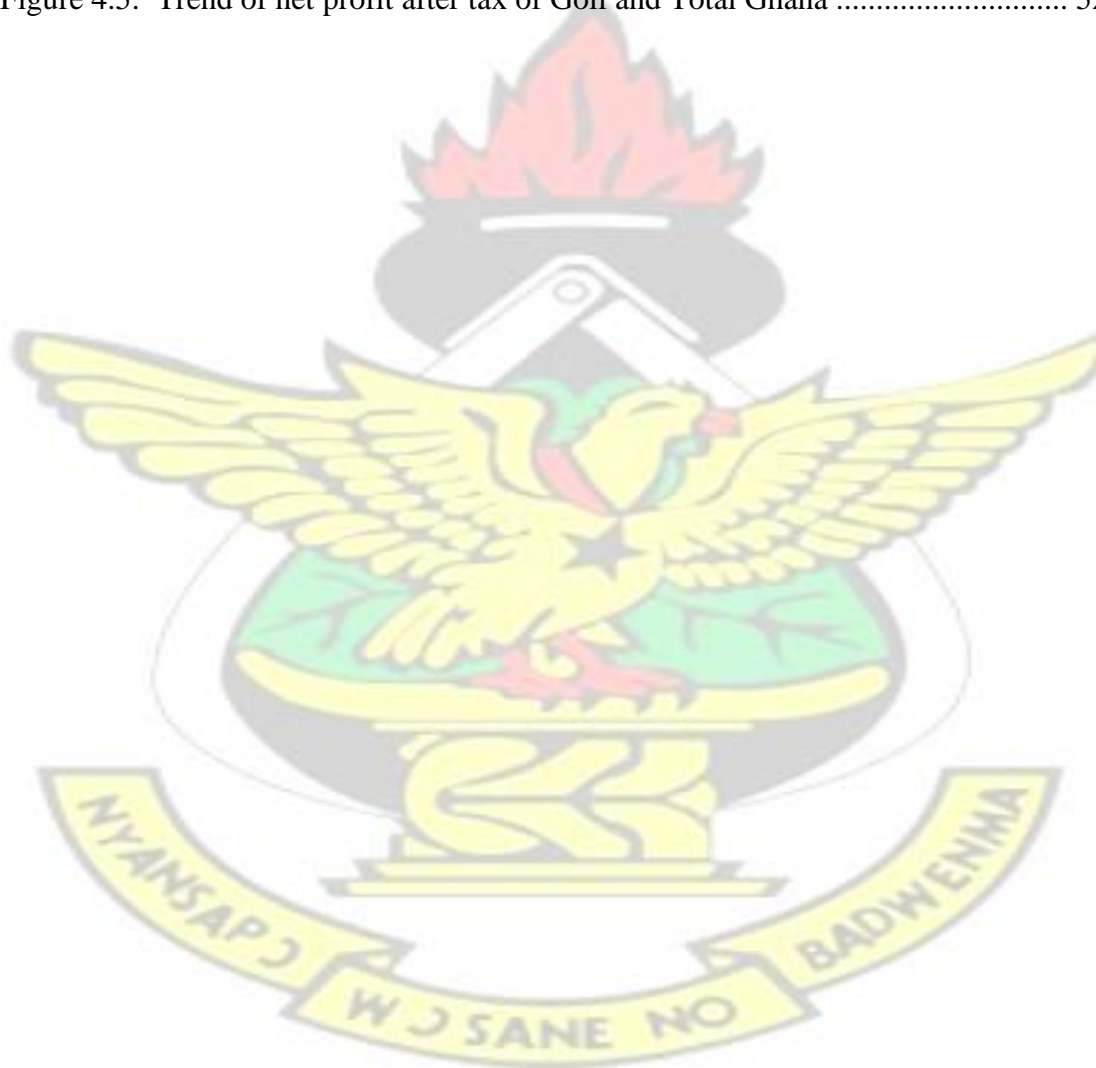
2.4.2 Management of cash and short term securities .....	12
2.4.3 Management of receivables .....	16
2.4.4 Management of account payables .....	18
2.5 Metrics used in working capital management .....	19
2.6 Justification for working capital management .....	21
2.7 Working capital management strategies .....	23
2.8 Aggressive versus conservative working capital management policies .....	25
2.9 Working capital management and profitability .....	26
2.10 Assessment of profitability trends .....	32
2.11 Measure of profitability .....	32
<b>CHAPTER THREE .....</b>	
<b>34 METHODOLOGY AND ORGANIZATIONAL PROFILE</b>	
<b>..... 34</b>	
3.1 Introduction .....	34
3.2 The research design.....	34
3.3 Population .....	34
3.4 Sampling technique and sample size .....	34
3.5 Data collection .....	35
3.6 Data analysis .....	35
3.7 Ethical consideration .....	36
<b>CHAPTER FOUR .....</b>	
<b>39 DATA PRESENTATION, ANALYSIS AND DISCUSSION</b>	
<b>..... 39</b>	
4.1 Introduction .....	39
4.2 Demography of respondents .....	39
4.3 Analysis of trend of working capital management variables .....	40
4.3.1 Days Inventory outstanding (stock turnover period) from 2011-2015 .....	40
4.3.2 Day sales Outstanding (Debtor days) from 2011-2015 .....	41
4.3.3 Days Payable outstanding (Creditor days) from 2011-2015 .....	43
4.3.4 Cash conversion cycle from 2011-2015 .....	44
4.4 Management of working capital components .....	46

4.4.1. Interview with inventory managers .....	46
4.4.2. Interview with sales/marketing manager .....	47
4.4.3 Interview with finance manager .....	48
4.5 Working capital management strategies .....	49
4.6 Effect of Working Capital on Profitability of Goil & Total .....	
<b>52 CHAPTER FIVE</b>	
.....	<b>54 SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSIONS 54</b>
5.1 Introduction .....	54
5.2 Summary of Major Findings .....	54
5.3 Conclusions .....	55
5.4 Recommendations .....	56
<b>REFERENCES .....</b>	
<b>57 APPENDIX ONE</b>	
.....	<b>61 APPENDIX TWO .....</b>
	<b>63</b>
<b>LIST OF FIGURES</b>	
Table 4.1 :Gender, qualification and number of years respondents have work in position .....	39



## LIST OF TABLES

Figure 2.1: Cash Conversion Cycle .....	21
Figure 4.1: Days Inventory Outstanding (stock turnover period) for GOIL and Total Petroleum Ghana .....	41
Figure 4.2: Days sales outstanding (Debtor days) for GOIL and Total Petroleum ...	43
Figure 4.3 Days payable outstanding for GOIL and Total Petroleum Ghana .....	44
Figure 4.4: Cash conversion cycle for GOIL and Total Petroleum Ghana .....	46
Figure 4.4.1: Conservative Investment Policies of GOIL and Total Petroleum .....	50
Figure 4.4.2: Aggressive Financing Policies of GOIL and Total Petroleum .....	51
Figure 4.5: Trend of net profit after tax of Goil and Total Ghana .....	52



## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of the study

Both excessive and inadequate working capital are harmful to strategic competitiveness of small and medium sized enterprises, hence working capital needs to be maintained at a proper size.

A country's competitiveness is achieved through accumulation of individuals firms' strategic competitiveness in the global economy. Strategic competitiveness is achieved when a firm successfully formulates and implements a value creating strategies (Hitt et al 2005)

Strategic competitiveness of an organization requires effective financial management and among other things proper management of both-long-term and short-term funds; long-term funds are required to create production facilities through purchase of fixed assets such as land, plant and machinery, diversification and expansion of business, research and development, buildings, etc. Investments in these assets represent that part of industry's permanent financing. Funds are also needed by a company for short time purpose for the procurement of raw materials, payment of wages and other day to day running expense. These funds are known as working capital. The requirements for working capital may vary from industry to industry depending upon its sales, scale of operation, terms of credit, production policy, seasonal variation, manufacturing process etc (Kakuru 2007). The need to invest in working capital steams from the desire of any business to produce enough goods and services in a timely manner so as to meet market needs. Working capital refers to the short-time capacity that enables the business to

operate the long term assets on daily basis in order to produce desired goods and services (Kakuru 2007).

In the words of Khanka (2008) working capital is that amount which is required to carry out the day to day operation of an enterprise whether big or small. It may also be regarded as that portion of an enterprise's total capital which is employed in its shortterm operations.

Most firms have a large amount of cash invested in working capital, as well as substantial amount of short-term payables as a source of financing. According to Deloof (2003), the National Bank of Belgium in 1997 recorded that, accounts receivable and inventories were respectively 17% and 10% of total assets of all Belgian non-financial firms. Accounts payable were 13% of total assets of these firms. Against this background the writer indicated that, it can be expected that the way in which working capital is managed will have a significant impact on the profitability of firms. Accordingly, for many firms working capital management is a very important component of their financial management in the supply chain.

According to Harris (2005) Working capital management is a simple and straightforward concept of ensuring the ability of the firm to fund the difference between the short term assets and short term liabilities. Many firms' today considers a day's working capital management has as the main central issues in the firm's decisions making and financial managers are trying to identify the basic drivers and level of working capital management (Lamberson, 1995). Efficient working capital management is an integral component of the overall corporate strategy to create shareholder value. According to Shin and Soenen (2006) working capital is the result of the time lag between the expenditure for the purchase of raw materials and the

collection for the sale of the finished product. The continuing flow of cash from suppliers to inventory to accounts receivable and back into cash is usually referred to as the cash conversion cycle. The way in which working capital is managed can have a significant impact on both the liquidity and profitability of the company. Smith (1980) first signaled the importance of the trade-offs between the dual goals of working capital management, i.e., liquidity and profitability. In other words, decisions that tend to maximize profitability tend not to maximize the chances of adequate liquidity. Conversely, focusing almost entirely on liquidity will tend to reduce the potential profitability of the company.

The Ghana Stock Exchange has operated for barely twenty years with about thirty six (36) listed companies from various sectors. Various studies have shown that an efficient and effective oil sector help in the operations and development of an economy. Therefore for an economy to grow there is the need to have a well developed and high performance oil sector to argument the efforts of government policies. Operations in the oil sector in Ghana are heavily regulated by the state with private participation. There are two oil marketing companies listed on the Ghana Stock Exchange name GOIL and Total Petroleum Ghana Ltd. As publicly listed companies with a lot of stakeholder interest, issues of efficiency, profitability, and liquidity are of prime concern. Effective working capital management encompasses the management of profitability, liquidity, gearing or leverage since any mismanagement of these areas becomes detrimental to public investment. It is against this background that a comparative study of the working capital management of these companies is necessary.

## **1.2 Statement of the problem**

A firm is required to maintain a balance between liquidity and profitability while conducting its day to day operations. Liquidity is a precondition to ensure that

organizations are able to meet its short-term obligations and its continued flow can be guaranteed from a profitable venture. The importance of cash as an indicator of continuing financial health should not be surprising in view of its crucial role within the business. This requires that business must be run both efficiently and profitably. In trying to do this, an asset-liability mismatch is likely to occur which may increase firm's profitability in the short run but at a risk of its insolvency. The empirical question here is whether a short term cash conversion cycle is beneficial for the company's profitability? A firm can have larger sales with a generous credit policy, which extends the cash cycle. In this case, the longer cash conversion cycle may result in higher profitability. However, the traditional view of the relationship between the cash conversion cycle and corporate profitability is that, *ceteris paribus*, a longer cash conversion cycle hurts the profitability of a firm. Firms may have an optimal level of working capital that maximizes their value. On the one hand, large inventory and a generous trade credit policy may lead to higher sales. Larger inventory reduces the risk of a stock-out. Trade credit may stimulate sales because it allows customers to assess product quality before paying (Long, Malitz and Ravid 1993; and Deloof and Jegers 1996).

Because suppliers may have significant cost advantages over financial institutions in providing credit to their customers, it can also be an inexpensive source of credit for customers (Petersen and Rajan 1997). The flip side of granting trade credit and keeping inventories is that money is locked up in working capital. Another component of working capital is accounts payable. Delaying payments to suppliers allows a firm to assess the quality of the products bought, and can be an inexpensive and flexible source of financing for the firm. On the other hand, late payment of invoices can be very costly if the firm is offered a discount for early payment. The question therefore which arises

is: how should companies manage these indicators to ensure efficiency? What is the trend of working capital management indicators among oil marketing companies in Ghana? What type of working capital management strategy or policy is adopted by oil marketing companies? It is an attempt to address these issues that has necessitated the comparative study between GOIL and Total Petroleum Limited.

### **1.3 Objectives of the study**

The purpose of this study is to investigate the impact of working capital management on firm's performance in the oil sector. The study also seeks to achieve the following;

1. To examine the trend of working capital components of oil marketing companies.
2. To assess the cash conversion cycle of oil marketing companies in Ghana.
3. To determine the working capital management strategies of oil marketing companies.
4. To examine the effect of working capital on profitability of oil marketing companies.

### **1.4 Research questions**

1. What is the trend of accounts receivable, accounts payable and inventory conversion periods of oil marketing companies?
2. What is the trend of the cash conversion cycle of oil marketing companies?
3. What working capital management strategies are adopted by oil marketing companies?
4. What is the effect of working capital on the profitability of oil marketing companies?

## **1.5 Scope of the study**

The study covers oil marketing companies on the Ghana stock exchange with particular attention on working capital management and profitability of the firms. The study also focused on key persons who have requisite knowledge information about working capital and its components.

## **1.6 Justification of the study**

It is hoped that the result of this study concerning working capital management would contribute to current knowledge and literature on working capital. Also, the findings of the study are useful not only to Goil and Total but also to oil marketing companies throughout the country. This would also help stakeholders in business to formulate and implement policies that will help them to effectively manage working capital, determining ways management can effectively improve their working capital management.

## **1.7 Organization of the study**

Chapter one provides an introductory overview of the full study comprising the statement of the problem, objectives of the study, research questions, and relevance of the study. Limitations of the study, operational definition of terms and how the thesis was organized are also captured in this chapter. Chapter two follows with a review of relevant literature on working capital management practices of organizations. Chapter three presents the methodology used for the study and gives a detailed overview of the population sampling technique, the research design, research instrument, the data collection procedures and data analysis procedures. Chapter four focuses on the presentation and the analysis of the data collected. Descriptive statistics are presented to show similarities and differences between the two companies- Goil and Total.

Chapter five summarizes, concludes and offer recommendations for the study.

# KNUST



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 INTRODUCTION

The purpose of this chapter is to introduce key principles around working capital and general theory around it. This chapter will introduce vocabulary and drivers behind working capital, and how proper management of working capital can improve liquidity and profitability in a company

#### 2.2 MEANING OF WORKING CAPITAL

In the expressions of Khanka (2008) working capital is that sum which is obliged to do the normal operation of a venture whether enormous or little. It might likewise be viewed as that divide of an undertaking's aggregate capital, which is utilized in its fleeting operations.

Working Capital can be described as gross or net. The former alludes to a firm's interest and activities regarding its non-fixed assets whereas the former focuses on the contrast between the organization's current resources and current obligations. These two divisions of working capital are not elite; rather both have risen to criticalness from the administration perspective point (Pandey 2007). Working capital alludes to the association's interest in fleeting resources in particular money, receivables, transient securities, account receivables (indebted individuals) and inventories in crude materials, work in advancement and stock in completed merchandise (Kitty 2006) Working capital is the capital that supervisors can promptly give something to do to create the advantages of capital venture (Frank & Pamela, 2003).

## **2.3 TYPES OF WORKING CAPITAL**

Working Capital can be classified either on the basis of its concept or on the basis of periodicity of its requirements, which is as follows:

### **2.3.1 (A) CONCEPT BASIS:**

Based on concept, working capital can be either gross Working Capital or net Working Capital. Gross Working Capital is represented by the total Current Asset.

The net Working Capital is the excess of Current Asset over current liabilities.

(1) Gross Working Capital = Total Current Asset.

(2) Net Working Capital = Current Asset. – Current Liabilities.

### **2.3.2 (B) REQUIREMENT BASIS**

According to Gerstein Bergh, the Working Capital can be divided into two categories on the basis of time and requirement:

(1) Permanent Working Capital

It refers to the minimum amount of investment which should always be there in the fixed or minimum Current Asset like inventory, accounts receivable or cash balance, in order to carry out business smoothly.

The investment is of a regular or permanent type and as the size of the firm expands the requirement of permanent Working Capital also increases. Tandon Committee has referred to this type of Working Capital as „Hard Core Working Capital.“

(2) Variable Working Capital

The excess of the amount of Working Capital over permanent Working Capital is known as variable Working Capital. The amount of such Working Capital keeps on

fluctuating from time to time on the basis of business activities. It may again be subdivided into seasonal and special Working Capital. Seasonal Working Capital is required to meet the seasonal demand of busy periods occurring at stated intervals. On the other hand special Working Capital is required to meet extra ordinary needs for contingencies. Events like strike fire, unexpected competition, rising price tendencies or a big advertisement campaign require such capital.

Working Capital cycle indicates the length of time between firms' paying for materials entering into stock and receiving the cash from sale of finished goods. In a manufacturing concern the duration of time required to complete the sequence of events is called operating cycle.

According to Hunt William & Donaldson, "The Working Capital is required because of the time gap between the sales and their actual realization in cash. This time gap is technically termed as operating cycle of the business."

### **2.3.3 Working capital in the balance sheet**

According to Brealey, Myers & Allen (2006), two fundamental terms worth discussing under working capital are gross working capital and net working capital. The investment that is needed for trade receivables, stock and cash is generally referred to as Gross Working capital or simply working capital. A certain part of the investment in working capital is financed by short term fund sources (current liabilities) such as trade payables and other current maturities. The difference between current assets and current liabilities is **net working capital**. Such difference shows the amount of long term capital investment a company must make to finance its working capital. It should however be noted that net working capital can also be negative in which case the company's current liabilities exceeds its current assets.

According to Fisher's separation theorem, gross working capital is the investment and net working capital represents the financing of the working capital-the investment. As presented by Brealey, Myers & Allen (2006 pp 843), a company, in reality, has to attend to both these factors when optimizing working capital and maximizing profitability and liquidity

## **2.4 Managing working capital**

A company accrues accounts receivable when it sells its goods on credit. Depending on payment terms, the company might receive cash in days, weeks or months. A company can manage its accounts receivables by credit management, meaning that decisions regarding terms of sale, credit analysis and decision, and collection policy have to be made. For example, by improving the efficiency of collection the company can gain significant advantages in working capital. Again, Brealey; Myers & Allen (2006 pp 814-819) stressed that too aggressive collection can affect the company's sales creating a conflict between sales and collection. Alternatively, the use of factoring or invoice discounting has helped companies to shorten their cash cycles. Simply put, factoring is when a firm sells its receivables to a factor (usually a financial institution) for immediate cash. The factor charges a percentage of the payable sum as interest.

### **2.4.1 Management of inventory**

Stock otherwise known as inventory is another important current asset. The type of inventory a company owns is dependent on the industry it operates in. Inventories include among others raw materials, work-in-progress goods or even finished goods. Inventory management is always a tedious task as companies must constantly balance sales and tied up capital. That is, if inventory levels are too low against rising demand the company loses its sales revenue. Conversely, too much inventory lock up capital can

be used more effectively in other investments. The trend over the past decade has been to lower inventory levels, Brealey, Myers & Allen (2006 pp 821)

#### **2.4.2 Management of cash and short term securities**

Managing cash is becoming ever more sophisticated in the global and electronic age of the 1990s as financial managers try to squeeze the last dollar of profit out of their cash management strategies (Block & Hirt 1992).

According to McInaney (2000) cash is much more than just one element of working capital. As the medium of exchange and store of value, cash provides the linkage between all financial aspects of the firm. More specifically it links short and longterm financing decisions with one another, with decision involving investment both in fixed assets and working capital. Clearly, cash management is one of the key roles in any organisation of any size description. Meyer et al (1992) observes that cash and marketable securities are the most liquid of the company's assets. Cash is the sum of currency a company has on hand and the funds on deposit in bank checking accounts. Cash is the medium of exchange that permits management to carry on the various functions of the business organisations. From economic theory, several writers have theorized in support of Keynes' that the motives for holding cash are merely, transactionary, precautionary and speculative.

According to Keynes (1973), companies hold cash in order to bridge the interval between the time of incurring business cost and that of the receipt of the saleproceeds. In other words, companies hold a certain amount of cash in order to meet the regular expenses of their activity. Therefore, the higher the firm's ability to schedule its cash flows (depending on their predictability) the weaker the

„transactions-motive“ for holding cash will be. The transaction motive illustrates the cash holding of firms and therefore more applicable to SME's. The precautionary motive pays regard to a company's need to provide for unsuspected expenses and unforeseen opportunities of advantageous purchases. Thus, if a firm operates in a highly volatile sector, its precautionary cash holding will be higher than that of firms operating in a less risky environment. The third motive for holding cash refers to the holding of cash for the purpose of speculation. The speculative-motive is based on the assumption that rising interest rates induce decrease in prices of securities and vice versa. Therefore, a firm will invest its idle cash in securities when interest rates are expected to fall. This generates benefits for the firm because the prices of the acquired securities will rise as a consequence of the anticipated fall in interest rate.

Horne (2000) claims that companies do not hold cash for this kind of speculative purpose and can be assumed that this estimation is valid especially for SMEs which usually do not have the resources to make such complex financial decisions. The success of a firm's failure in cash management depends to a large extent in the strategy adopted. In this direction, Gitman et al (1970) suggest that each company's uniqueness in both receiving and disbursing funds from its operation should be recognized. Further to this, they suggest the adoption of cash management strategies based upon a company's own financial conditions and objectives.

Yankey (1974) also observe that money is a scarce commodity and has several alternative uses. It is necessary that managers utilize every cedi so efficiently that the return on each cedi is approximately equal to the return of a cedi in an alternative investment of comparable risk. Srinivasan (1999) stresses that cash management strategy aims to cover the following aspects: cash budgeting/forecasting, managing cash flows through organized collection management and proper disbursement management,

optimum cash level and investing surplus cash. Suitable cash policies should be laid out by the Director (finance) or in each of the above cash management areas. Such cash policies help the company to mobilize funds or cash at the right time and place, plan disbursement on the basis of expected collections, ensure optimal utilization of cash and avoid overdraft, finally invest surplus cash in short-term securities. Meyer et al (1992) state that effective cash management is particularly important for small firms for several reasons: First, small businesses do not have the same, extensive access to capital markets as do large firms. The major source of capital funds is commercial banks for SMEs. Bankers require borrowers to present detailed analysis of their anticipated cash needs. To do this, the firm must have efficient cash management procedures in place. Secondly, because of a small firm's limited access to capital, a cash shortage problem is both difficult and costly for small firms to rectify than for large firms. Thirdly, because many small firms are growing rapidly, they have the tendency to run out on cash. Growing sales require increases in inventories and accounts receivable, thereby using up the firm's cash resources.

#### **2.4.2.1 Cash management model**

Modeling can also be useful in predicting the optimal amount of cash on hand to maximize cash flow and minimize interest expense. The most common models are the Baumol cash model and Miller-Orr cash model.

##### **Baumol model**

Developed by William Baumol it is a derivative of the EOQ model. It is used to determine the optimal amount of cash to hold in a predictable environment. It treats cash as inventory and buying and selling investment transactions as ordering costs. The objective is to minimize the fixed cost of buying and selling investment transactions

and minimize the opportunity cost of holding too much cash. Just like in EOQ Baumol is a two-step formula. Step one is to determine the optimal transaction size. Step two is to determine the optimal number of transactions in a period. Average cash holdings would be one half of the optimal transaction size.

### **Miller-orr model**

This model seeks to overcome the shortcomings of the Baumol model. It determines the optimal amount of cash to hold in an unpredictable environment. It extends the Baumol model in that it tracks both inflows and outflows of cash, allows inflows and outflows on an irregular and unpredictable basis and establishes two trigger points - the lower cash level at which securities must be sold to replenish cash and the upper cash level at which surplus cash should be invested. Miller-Orr is not concerned with the frequency of the securities transactions. It is trying to determine the optimal time to buy or sell securities based on the amount of cash on hand. Miller Orr takes into consideration the fixed cost of securities transactions and assumes these costs are the same when both buying and selling, the daily interest rate on marketable securities and the variance of the daily net cash flows.

### **Stone model**

The Stone Model is somewhat similar to the Miller-Orr Model insofar as it uses control limits. It incorporates, however, a look-ahead forecast of cash flows when an upper or lower limit is hit to take into account the possibility that the surplus or deficit of cash may naturally correct itself. If the upper control limit is reached, but is to be followed by cash outflow days that would bring the cash balance down to an acceptable level, then nothing is done. If instead the surplus cash would substantially remain that way, then cash is withdrawn to get the cash balance to

a predetermined return point. Of course, if cash were in short supply and the lower control limit was reached, the opposite would apply. In this way the Stone Model takes into consideration the cash flow forecast.

The goals of these models are to ensure adequate amounts of cash on hand for bill payments, to minimize transaction costs in acquiring cash when deficiencies exist, and to dispose of cash when a surplus arises. These models assume some cash flow pattern as a given, leaving the task of cash collection, concentration, and disbursement to other methods

### **2.4.3 Management of receivables**

Sales on credit are inevitable necessity in the business world today. No business can exist without selling the products on credit.

According to (Joshi, 2000) and Meyer et al (1992), noted that accounts receivables consist of the credit a business grants its customers when selling goods or services which take the form of either trade credit which the company extends to other companies or consumer credit, which the company extends to its ultimate consumers.

The effectiveness of a company's credit policies can have a significant impact on its total performance. Machiraju (2005) also argue that receivables arise out of delivery of goods or rendering of services on credit. Receivables represent claims against others for future receipt of money, goods or services whose value depends upon the volume of credit sales and the policy for collecting such credits. Joshi (2000) indicated that the primary objective of investment in trade debtor is to increase profit by expanding sales to attract new customers and retain old customers. By constantly increasing its sales and profit the business carves out a bigger niche in the market and elevates its status among competitors.

In determining an optimal credit extension policy, Meyer et al (1992) observe that a company's financial managers must consider a number of major controllable variables that can be used to alter the level of receivables which include credit standards, credit terms and collection effort. Credit standards are the criteria a company uses to screen applicants in order to determine which of its customers should be offered credit and how much. The process of setting credit standards allows the firms to exercise some degree of control over the "quality" of accounts accepted. The quality of credit extended to customers is a multidimensional concept involving the time a customer takes to repay credit obligation, given that it is repaid and the probability that a customer will fail to repay the credit extended to them. In establishing credit standards, Horn (2000), suggests a means of categorizing customers for the purpose of approving or refusing credit to them. This will enable the firm to avoid investigating the credit worthiness of customers who fall into the refused category. As a basis for credit extension to those who qualify, he suggests the comparison between the expected cost of credit extension and expected profit to be forgone in the absence of credit.

A business should have a rational for collection of receivables. Collection policy can be tight policy which ensures better collection, fewer instances of bad debt but high collection costs. It may, however, antagonize the customers and some of them may switch to competitors. A liberal collection policy will have opposite effect, Joshi (2000). Meyer et al (1992) also assert that the collection effort consist of the methods a business employs in attempting to collect payment of past-due accounts. Some commonly used methods include sending notice or letters informing the customers of the past-due status of the account and requesting payment, telephones and/or visiting the customers in an effort to obtain payment, employing a collection agency and taking legal action against the customers. The literature related to credit policy is quite extensive. Srinivasan

(1999), states that it is essential that companies spell out clearly and precisely the credit policy directions in writing in the general interest of the organisation. The credit policy will be an adjunct to the company's marketing policy and should serve to reinforce. The decision made out of these options is based on the lowest cost. This technique is appropriate for a firm which relies to a larger extent on information obtained from experience with its own customers.

One significant revelation by Western and Copeland (1989) in the management of accounts receivable is the consequence of persistent inflation on accounts receivable. In inflationary period, when interest rates are high and financing requirement becomes large, buyers may delay their payment beyond the normal credit period. These in turn cause the selling firms investment in account receivables to rise, increasing their financing requirement. The outcome of such a situation is the important role credit and collection policies assume in the broad spectrum of receivable management

#### **2.4.4 Management of account payables**

Accounts payable are one of the major sources of unsecured short-term financing (Gitman, 2009; Hill & Sartoris, 1992). Utilizing the value of relationship with payee is a sound objective that should be highlighted as important as having the optimal level of inventories (Hill & Sartoris, 1992). As a consequence, strong alliance between company and its suppliers strategically improve production lines and strengthen credit record for future expansion.

Western and Copeland (1989) made reference to trade credit as the largest category of short-term credit, representing about one-third of the current liabilities of nonfinancial corporation. Firms must have policies concerning those who authorize purchasing, and how purchasing is geared to demand. This can lead to proper management of accounts

payable. Belt (1979) also adds that accounts payable are more deferrable in that the average payment can be extended by managerial decision. However, this deferability is limited to an unknown extent; eventually, supplier will refuse to seal firms that excessively delay payment.

## 2.5 Metrics used in working capital management

The main metrics of working capital and its effective management, besides the already introduced metric of NWC, are days sales outstanding (DSO), days payables outstanding (DPO), days inventory outstanding (DIO), cash conversion cycle (CCC) and net trade cycle (NTC).

Day sales outstanding express the number of days' worth of sales (revenue) still outstanding in the balances (receivables). The DSO can be improved by optimizing the collection process in a company. Also credit policies can be harmonized which leaves less room for sales to give out lax payment schedules. Mathematically, DSO can be expressed as:

$$DSO = \frac{\text{Average Accounts Receivable}}{\text{Sales}} \times 365$$

Days payables outstanding expresses the number of days' worth of payment still outstanding at the end of the period. The DPO tells how many days the company, on average, uses to pay out its liabilities. By lengthening this period, the company can to some degree improve its net working capital. DPO can be expressed mathematically as

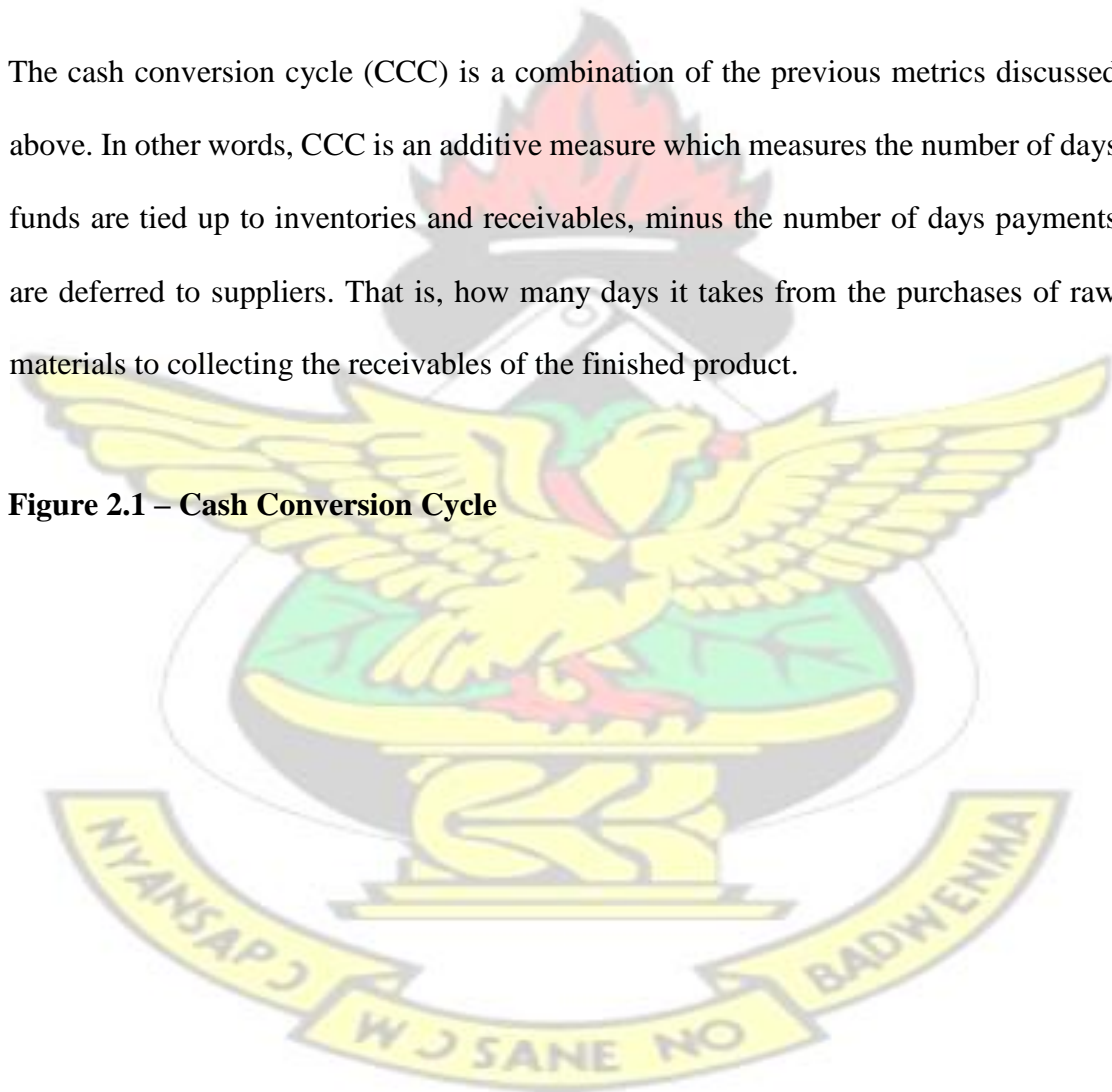
$$DPO = \frac{\text{Average Accounts payable}}{\text{Cost of Goods Sold}} \times 365$$

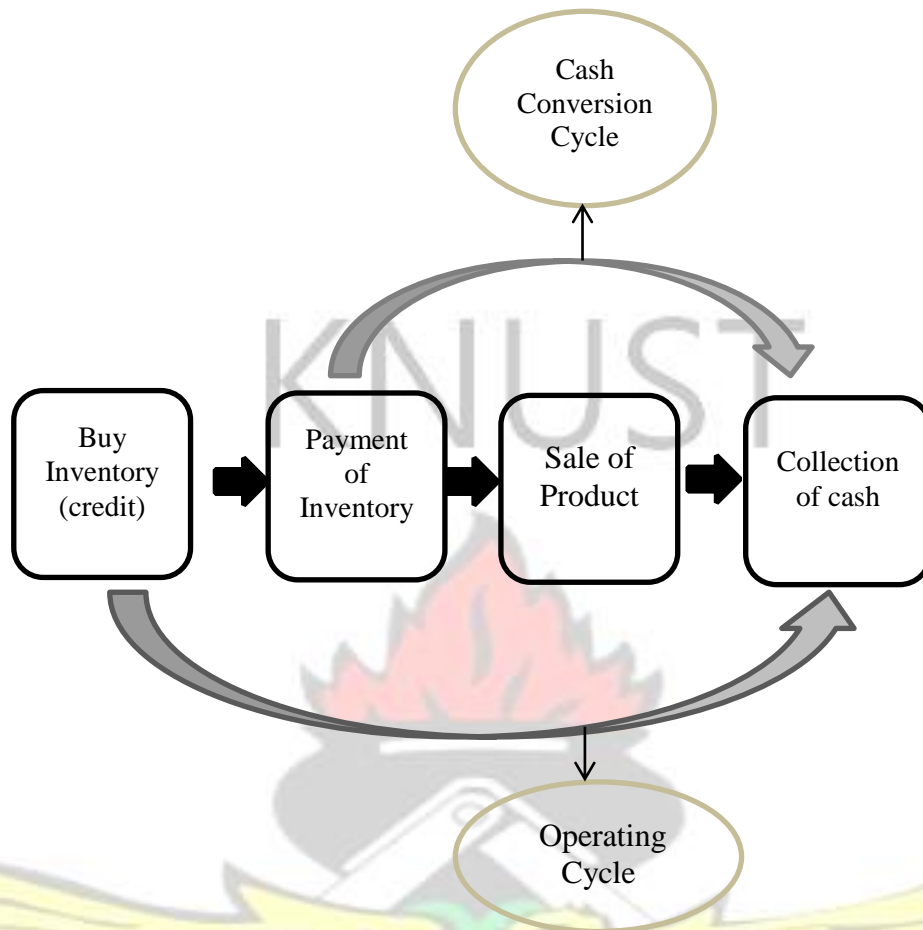
Days inventory outstanding is a financial and operations figure that estimates the value of inventory. The value is given by days of inventory outstanding, in terms of cost of goods sold. Basically, DIO tells the time it takes to convert inventory into revenue. Mathematically, DIO is expressed as

$$\text{DIO} = \frac{\text{Average Inventory}}{\text{Cost of Goods Sold}} \times 365$$

The cash conversion cycle (CCC) is a combination of the previous metrics discussed above. In other words, CCC is an additive measure which measures the number of days funds are tied up to inventories and receivables, minus the number of days payments are deferred to suppliers. That is, how many days it takes from the purchases of raw materials to collecting the receivables of the finished product.

**Figure 2.1 – Cash Conversion Cycle**





Source: KPMG, 2005.

## 2.6 Justification for working capital management

According to Padachi, (2006) the working capital meets the short-term financial requirements of a business enterprise. It is a trading capital, not retained in the business in a particular form for longer than a year. The money invested in it changes its form and substance during the normal course of business operations. The need for maintaining an adequate working capital can hardly be questioned. Just as circulation of blood is very necessary in the human body to maintain life, the flow of funds is very necessary to maintain business. If it becomes weak, the business can hardly prosper and survive. Working capital starvation is generally credited as a major cause if not the

major cause of most business failure in many developed and developing countries (Rafuse, 1996).

The success of a firm depends ultimately, on its ability to generate cash receipts in excess of disbursements. The cash flow problems of many small businesses are exacerbated by poor financial management and in particular the lack of planning cash requirements (Jarvis et al, 1996). While the performance levels of small businesses have traditionally been attributed to general managerial factors such as manufacturing, marketing and operations, working capital management may have a consequent impact on small business" survival and growth (Kargar and Blumenthal, 1994). Padachi, (2006) again remarked that the management of working capital is important to the financial health of businesses of all sizes. The amounts invested in working capital are often high in proportion to the total assets employed and so it is vital that these amounts are used in an efficient and effective way.

Padachi (2006) further argues that, a firm can be very profitable, but if this is not translated into cash from operations within the same operating cycle, the firm would need to borrow to support its continued working capital needs. Thus, the twin objectives of profitability and liquidity must be synchronized and one should not impinge on the other for long. This justifies the fact that there is a strong correlation between working capital management and profitability and liquidity. In advancing the argument, the author indicated that investments in current assets are inevitable to ensure delivery of goods or services to the ultimate customers and a proper management of same should give the desired impact on either profitability or liquidity. If resources are blocked at the different stage of the supply chain, this will prolong the cash operating cycle. Although this might increase profitability (due to increase sales), it may also adversely

affect the profitability if the costs tied up in working capital exceed the benefits of holding more inventory and/or granting more trade credit to customers.

When there are a less number of inventory days, and a less number of accounts receivable days and higher number of accounts payable days, it says that there is a good cash conversion cycle. A good cash conversion cycle indicates proper working capital management. According to literature since there is a negative relation between proper working capital management and profitability, a shorter cash conversion cycle finally leads to higher performance among firms (Lackshan, 2009).

## **2.7 Working capital management strategies**

Working capital management is a significant area of financial management, and the administration of working capital may have an important impact on the profitability and liquidity of the firm (Shin and Soenen, 1998). Firms can choose between the relative benefits of two basic types of strategies for net working capital management: they can minimize working capital investment or they can adopt working capital policies designed to increase sales. Thus, the management of a firm has to evaluate the trade-off between expected profitability and risk before deciding the optimal level of investment in current assets.

On the one hand, minimizing working capital investment (**aggressive policies**) would positively affect the profitability of the firm, by reducing the proportion of its total assets in the form of net current assets. However, Wang (2002) points out that if the inventory levels are reduced too much, the firm risks losing increases in sales. Also, a significant reduction of the trade credit granted may provoke a reduction in sales from customers requiring credit. Similarly, increasing supplier financing may result in losing discount for early payments.

On the other hand, and contrary to traditional belief, investing heavily in working capital (**conservative policy**) may also result in higher profitability. In particular, maintaining high inventory levels reduces the cost of possible interruptions in the production process and loss of business due to the scarcity of products, reduces supply costs, and protects against price fluctuations, among other advantages (Blinder and Maccini 1991).

Also, granting trade credit favors the firm's sales in various ways. Trade credit can act as an effective price cut (Petersen and Rajan 1997), incentivizes customers to acquire merchandise at times of low demand (Emery 1987), allows customers to check that the merchandise they receive is as agreed (quantity and quality) and to ensure that the services contracted are carried out [Smith (1987) cited by Garcí'a-Teruel and Martí'nez-Solano (2007)], and helps firms to strengthen long-term relationships with their customers. However, these benefits have to offset the reduction in profitability due to the increase of investment in current assets. Most empirical studies relating to working capital management and profitability support the fact that aggressive working capital policies enhance profitability.

In particular, Garcí'a-Teruel and Martí'nez-Solano (2007) citing Jose et al. (1996) provided strong evidence for US companies on the benefits of aggressive working capital policies. Shin and Soenen (1998) analyzed the relation between the net trade credit and profitability for a sample of firms listed on the US stock exchange during the period 1974-1994. Their results also show strong evidence that reducing the net trade credit increases firms' profitability.

## **2.8 Aggressive versus conservative working capital management policies**

Aggressive asset management results in capital being minimized in current assets versus long-term investments. This has the expectation of higher profitability but greater

liquidity risk. As an alternative, a more conservative policy places a greater proportion of capital in liquid assets, but at the sacrifice of some profitability. To measure the degree of aggressiveness, the current asset to total asset ratio is used, with a lower ratio meaning a relatively more aggressive policy (Weinraub and Visscher, 1998). The writers further contended that aggressive financing policies utilize higher levels of normally lower cost short-term debt and less long-term capital. Although lowering capital might be costly, this has the tendency of increasing the risk of a short-term liquidity. A more conservative policy uses higher cost capital but postpones the principal repayment of debt, or avoids it entirely by using equity. The total current liability to total asset ratio is used to measure the degree of aggressive financing policy, with a high ratio being relatively more aggressive.

According to Panuchi, (2006), aggressive asset management results in capital being minimized in current assets versus long-term investments. This has the expectation of higher profitability but greater liquidity risk. As an alternative, a more conservative policy places a greater proportion of capital in liquid assets, but at the sacrifice of some profitability. To measure the degree of aggressiveness the current asset to total asset ratio is used, with a lower ratio meaning a relatively more aggressive policy. He added that aggressive financing policies utilize higher levels of normally lower cost short-term debt and less long-term capital. Although lowering capital costs, this increases the risk of a short-term liquidity problem. A more conservative policy uses higher cost capital but postpones the principal repayment of debt, or avoids it entirely by using equity. The total current liability to total asset ratio is used to measure the degree of aggressive financing policy, with a high ratio being relatively more aggressive (Panuchi, 2006).

## **2.9 Working capital management and profitability**

To observe how working capital management can affect profitability, one needs to take a look at a company's cash position or cash flow. As indicated by Shin & Soenen (1998) in their study, a longer cash conversion cycle might indicate that a company's sales are rising and that a company can compete by having lax credit policies or keep high inventory levels. On the contrary, a higher cash conversion cycle can negatively affect the company's profitability by increasing the time that cash is tied to noninterest bearing accounts such as trade receivables. By shorting the cash conversion cycle, the company's cash flow will have a higher net present value (NPV) because of the degree of certainty of cash to be received. Smith (1980) was one of the early researchers on liquidity and profitability trade-off in working capital management. Shin & Soenen (1998), however, believe that the trade-off can negatively affect company decisions as a shorter cash conversion cycle can contribute to both a better liquidity and profitability. In essence, a company ought to optimize the link between sales and finance instead of making a decision between liquidity and profitability.

Though many companies use long credit periods or high inventories to enhance sales (Shin & Soenen, 1998), a lower cash conversion cycle leads to higher net present value of cash flows. This is, de facto, a trade-off between sales flexibility and financial policies.

The growing importance of working capital in continuation of business unit has led to several strategies considered for working capital management. Profit units are able to impact the company liquidity by means of using different strategies with regard to working capital management. Each of the various strategies has different risk and efficiency. Financial managers of the companies with regard to conditions prevailing in the company as well as their personality and individuality would select "daring" or risk

strategy and/or “conservative” or risk aversion strategy. The liquidity of the company can be influenced by using different strategies in regard to working capital management. The working capital managers are divided into two categories: conservative and Aggressive. Conservative strategy in working capital management causes the increase of liquidity strength excessively. In implementing conservative policies, the risk of the inability of maturity debts refund has been tried to reach to the lowest level. In this strategy, the manager tries to keep the large amount of the current assets (whose return rate is low). Hence, companies with this kind of strategy have risk liquidity and less refund. . Aggressive strategy manager, with the lowest current asset, try to take maximum advantage from current debts through daring strategy and manage the company in this way. In implementing this strategy, the liquidity risk would increase and the company which carries out this strategy often encounters such situation that cannot pay the debt maturities. On the other hand, because the amount of current asset is at its lowest level, the rate of the investment refund would be increased (of course, if the company is not bankrupted). Companies that use risk strategy actually accept a high risk and their refund rate is so high. Companies can apply various strategies in managing the current assets and debts. By combining different strategies, a policy can be applied in order to optimize the working capital. Adopted from Shin & Soenen (1998):

**Current Assets Strategy:** Having a strategy in managing the working capital requires determining and maintaining a certain level of each of the current asset and total current assets.

**Conservative Strategy (in current assets management):** In this kind of strategy, the company tries to keep the liquidity by maintaining the cash and marketable securities. This is a very low risk strategy. Because having a relatively high liquidity allows the company to provide the goods inventory sufficiently and sell on credit.

Risk Strategy (in working capital management): The manager who uses risk strategy always tries to lessen the cash and marketable securities. If the manager acts daringly, he will attempt to reduce the funds which are invested in products inventory. A company which has the courage to decrease the cash and securities should accept the risk of lack of timely payment of debt maturities. Such company may not be able to meet the customers' needs and it will run at a loss. For compensating this loss, the company tries to use financial resources in order to provide the fixed assets. This strategy means that, the rate of fixed assets refund is much higher than the rate of cash and marketable securities efficiencies. The conservative manager tries to lessen the rate of short-term loan in company's capital structure. He tries to use long-term loans with floating interest in order to provide current assets.

The manager who is so conservative attempts to use other financial resources (shareholders capital) instead of taking out such loans. The structure of the company in which this policy is applied almost consists of two types: debts and equity. If a manager use risk policy, he tries to maximize the level of short-term loans and supplies the current assets from these loans. This policy does not mean that the company never uses the long term loan because the fixed assets can be used from long-term loans (Jhankhany and Parsaeian, (2001), RaymondP(1986)). Working capital is a vital part of business investment which is essential for continuous business operations. It is required by a firm to maintain its liquidity, solvency and profitability (Pirashanthini et al, 2013). Working capital management is an essential part of the short-term finance of a firm. With an efficient working capital management, a firm can release capital for more strategic objectives, reduce the financial costs, and improve profitability. (Taghizadeh et al, 2012) studies the relationship of working capital management on performance of firms Listed in Tehran Stock Exchange (TSE).

Average Collection Period, Inventory Turnover in days, Average Payment Period, Cash Conversion Cycle, and Net Trading Cycle were used to assess working capital management, and Net Operating Profitability was used to assess firms' performance. The results showed that the increase in Collection Period, Payment Period, and Net Trading will lead towards the reduction of profitability in the firm. In other words, managers can increase the profitability of their firms reasonably, by reducing Collection Period, Inventory Turnover, and Payment Period. Mohamadi (2009), in his study examines the effect of working capital management on profitability. The variable used as the profitability measure of companies was the ratio of gross profit on total assets. Variables used for the measures of capital investment, were Receivables Collection Period, inventories turnover, creditors deposit period, and convert cycle of cash fund. Variables, which were used as control variables, were company size, sale growth, ratio of financial assets on total assets and financial liabilities to total assets.

The result of this research stated that there is negative relation between companies' profitability and, and convert cycle of cash fund. In the other words, managers can increase their companies' profitability by logical decreasing Receivables Collection Period, and inventories turnover. The results of this research relating to creditors deposit period states that the more profitable is the company the less is the creditor's cycle. Malekiniya (2012) reviews the relationship between working capital policy and profitability of companies in automobile, pharmaceutical and mineral industries in Tehran Stock Exchange. The results of this study indicate that there is no direct and significant relationship between working capital management strategies with earning per share and return on equity, but there is a direct and significant relation between working capital management strategies and return on investment but not very strong

correlation, and only 6% of the variation in the return on investment can be justified by the variation in the working capital management strategies. According to Zohdi (2011), the reason that most bankruptcy corporations does not succeed is the unfavorable status and improper management of working capital. These corporations have good financial status in the long run, but because of incompetent working capital, are not able to compete with other corporations and they expelled. Profit units are able to affect corporations rate of cash by applying various policies in relation to working capital management. These strategies can affect rate of risk and their return. The results of this research reveal that, there is a significant and positive relationship between the policies of working capital and corporations risk. Other findings of the research show that there is a significant and positive relationship between corporations size and risk. (Ding et al,2013), with use a panel of over 116,000 Chinese firms over the period 2000–2007 to analyze the extent to which firms owned by different agents are able to use working capital to mitigate the effects of financing constraints on their fixed capital investment. These findings indicate that, in the presence of fluctuations in cash flow, firms tend to adjust both their fixed and working capital investment. Yet, when we differentiate firms into those with a relatively high and a relatively low working capital to fixed capital ratio, and in the presence of cash flow shocks, it is only those firms with a high ratio that are able to adjust their working capital investment. Furthermore, for all but foreign firms, the sensitivity of fixed capital investment to cash flow is much lower for those firms with high working capital: these may therefore use their working capital to alleviate the effects of cash flow shocks on their fixed capital investment.

Bei & Wijewardana (2012) to investigate working capital policy (WCP) practices in Sri Lankan context. For this aim Sample of this investigation consist 155 companies listed in Colombo Stock Exchange (CSC) from 2002 -2006. The study finding explore the

impact of different types of working capital policy practices are differently affect the firm liquidity, efficiency, profitability and capacity usage. Nazir & Afza (2007) also investigates the traditional relationship between working capital management policies and a firm's profitability. Using the panel data set for the period 1998-2005, the impact of aggressive working capital investment and financing policies has been evaluated using return on assets as well as Tobin's q. The study finds a negative relationship between the profitability measures of firms and degree of aggressiveness of working capital investment and financing policies. These results were further validated by examining the impact of aggressive working capital policies on market measures of profitability, which was not tested before. The results of Tobin's q were in line of the accounting measures of profitability and produced almost similar results for working capital investment policy. Liquid assets management decisions are very complex. On one hand, when too much money is tied up in working capital, the business face higher costs of managing liquid assets with additional high alternative costs. On the other hand, the higher liquidity assets policy could help enlarge income from sales (Michalski 2008). ALShubiri (2011) investigates the Effect of Working Capital Practices on Risk Management. The sample includes 59 industrial firms and 14 banks listed on the Amman Stock Exchange for the period of 2004-2008. The results indicate a negative relationship between profitability measures and working capital aggressiveness, investment and financing policy. Firms have negative returns if they follow an aggressive working capital policy. In general, there is no statistically significant relationship between the level of current assets and current liabilities on operating and financial risk in industrial firms. There is some statistically significant evidence to indicate a relationship between standard deviation of return on investments and working capital practices in banks. Pirashanthini et al (2013) also investigates the relationship

between the aggressive working capital policies and profitability and to identify the impact of working capital policies on profitability with the samples of twenty Manufacturing companies listed under Colombo stock exchange (CSE) in Sri Lanka. The study found that there is no relationship between the profitability measures of firms and working capital investment and financing policies. Further, the working capital aggressive investment and financing policies have no impact on profitability measures of ROA and ROE.

### **2.10 Assessment of profitability trends**

Brigham and Ehrhardt (2008) define profitability as the net result of a number of policies and decisions. Profitability is the measure of a firm's use of its assets and control of expenses to generate acceptable rate of return (Zane et al, 2004). The concept of Returns on Assets (ROA) and Returns on Equity (ROE) are important for understanding the profitability of a business enterprise. Specially, a "return" ratio illustrates the relationship between projects and investments needed to generate those profits (Liesz, 2008).

### **2.11 Measure of profitability**

According to Ayadi et al (2006), one measure of a firm's profitability is the relationship between the firm's cost and its sales. The greater the firm's ability to control cost in relation to its revenue the more its earning power is enhanced. Repeated surveys and several financial studies (Mechlin and Berg 2000; Watts, 2006; Dubofsky and Varadariajan 2007; and Obi 2008) have revealed that in spite of their empirical shortcomings, the most frequently employed measures are those based on the firm's profitability: essentially ROE, profit margin on sales, returns on total capitalization and Basic Earning Power ratios. Weygandt et al (2006) identify profitability measures as

tools used to measure the income or operating success of an enterprise for a given period of time. According to them, income, or lack of it, affects the company's ability to obtain debt and equity financing, the company's liquidity position, and the company's ability to grow. As a consequence, creditors and investors alike are interested in evaluating earning power.

Ayadi et al (2006), Brigham and Ehrhardt (2008), Burns et al (2008), Gyasi (1992) and Casteuble (1997) define and elaborate on these measures on assessing a company's profitability as follows:

- **The Gross Profit Margin (GPM)** shows how many dollars of bottom line that net income is generated per dollar of sales. The ratio takes into accounts all expenses and taxes that the firm has to pay out.

$$\text{GPM} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100$$

- **ROTA** shows the return on total assets of a firm without regard to taxes or financing. This measure should be examined in conjunction with turnover measures to help pinpoint potential problems regarding asset management.

$$\text{ROTA} = \frac{\text{Earning Before Interest and Tax}}{\text{Total Assets}} \times 100$$

## CHAPTER THREE

### METHODOLOGY AND ORGANIZATIONAL PROFILE

#### 3.1 Introduction

This chapter sought to discuss the population and sample size, the techniques used for sampling and data collection, the various data collection instruments as well as the procedures used in measuring and analyzing the data. The chapter also gives an overview profile of Goil and Total Company limited.

#### 3.2 The research design

The research strategy adopted by the researcher is the non-experimental research design, specifically comparative research. The comparative research design was adopted because the researcher sought to assess the diversity and familiarity of the selected cases- Ghana Oil and Total Company Limited respectively, with respect to their management of working capital.

#### 3.3 Population

This population of the study focused on companies listed on the Ghana Stock Exchange. A list of such organizations, as at the year 2015, can be found in the appendix section of this study

#### 3.4 Sampling technique and sample size

The researcher adopted the purposive sampling technique for this study. The choice is intended to give the researcher the freedom to selected oil marketing companies with near equal capacity in terms of infrastructure, size and products. The researcher selected a sample size of two (2) oil marketing companies namely Goil and Total. These two companies were selected based on their position (top three) in the industry that they operate. In terms of infrastructure and operations Goil and Total are well represented

within the regions of Ghana. Only key personnel from the selected sample were interviewed for further clarification on data obtained. Such personnel include general manager, accountant, shop keeper and inventory manager. The reason for this selection is largely due to the fact that only key employees are privy to working capital information.

### **3.5 Data collection**

Secondary data formed much of this research. Such data were sourced from publications, company's annual report and online sources. Secondary data sources include income statement, balance sheet and cash flow statement of both Goil and Total Ghana. Primary data was also obtained through interviews conducted with key officials of the company. The interview was designed to elicit responses from the General Manager, Retail managers, Finance managers and warehouse Managers. The selection of the respondents is primarily based on the fact that only key management personnel are privy to information relating to working capital components. The researcher intentionally repeated questions to ensure respondents gave a true opinion of the question being asked and also to seek clarification on initial responses

### **3.6 Data analysis**

Considering the nature of the data that was collected, it was appropriate to use qualitative technique in analyzing the data obtained. In terms of qualitative data, references and comparisons were made to existing and past information. The researcher also applied our personal judgment in the analysis where we deemed it very necessary. Recommendations were then made based on the findings.

### **3.7 Ethical consideration**

The researcher was very ethical in the conduct of the study. Permissions were obtained from the management of the two companies before they were chosen for the study. The purpose of the study was explained to management of the two companies upon which approval was given to use the staff and data as subjects for the study. Respondents were assured of anonymity and confidentiality of the responses they provided as purely for academic purposes. There were frequent meetings with the head office and functional managers to discuss their availability. All the necessary materials and sources used in the study have been duly recognized and acknowledged.

### **PROFILE OF GHANA OIL COMPANY**

Ghana Oil Company, hereafter GOIL, was incorporated as a private limited liability company on June 14, 1960 as AGIP Ghana Company Limited with the objective of marketing petroleum products and related products particularly fuels, liquefied petroleum gas (LPG), lubricants, bitumen, and specialty products in Ghana. The initial shareholders of GOIL were AGIP SPA of Italy and SNAM SPA. On the 16th of December 1968, however, SNAM S.P.A. transferred its 10% shareholding representing 95,000 shares to Hydrocarbons International Holdings of Zurich, Switzerland. Subsequently, the Government of Ghana in 1974 acquired the shares of AGIP SPA and Hydrocarbons International Holdings in AGIP Ghana Company Limited and by a special resolution in 1976 changed the name of the Company to Ghana Oil Company Limited

By a shareholders resolution passed on August 1, 2007 the Company adopted new regulations and was converted into a public Company. With respect to operations, the

Company's main business is marketing and distribution of petroleum products in Ghana. The biggest chunk of its sales comes from the sale of Diesel and Gasoline. The Company is manned by a ten-member management team headed by the Managing Director. These offices also serve as distribution points for the company's products. However, the main distribution points for fuels are Liaison Office, Central Depot, and the Accra Plains Depot all within the Tema catchment area, and the Takoradi Depot. GOIL has the largest retail network across Ghana. The company also has numerous consumer outlets throughout Ghana. The consumer outlets include companies, schools, hospitals, factories, hotels, banks and major parastatals. In addition, GOIL has a number of other retail outlets established to market premix fuel and kerosene to rural areas in Ghana. LP Gas filling plants have also been installed at some of the filling and service stations and at other locations in Ghana.

### **PROFILE OF TOTAL PETROLEUM GHANA LIMITED**

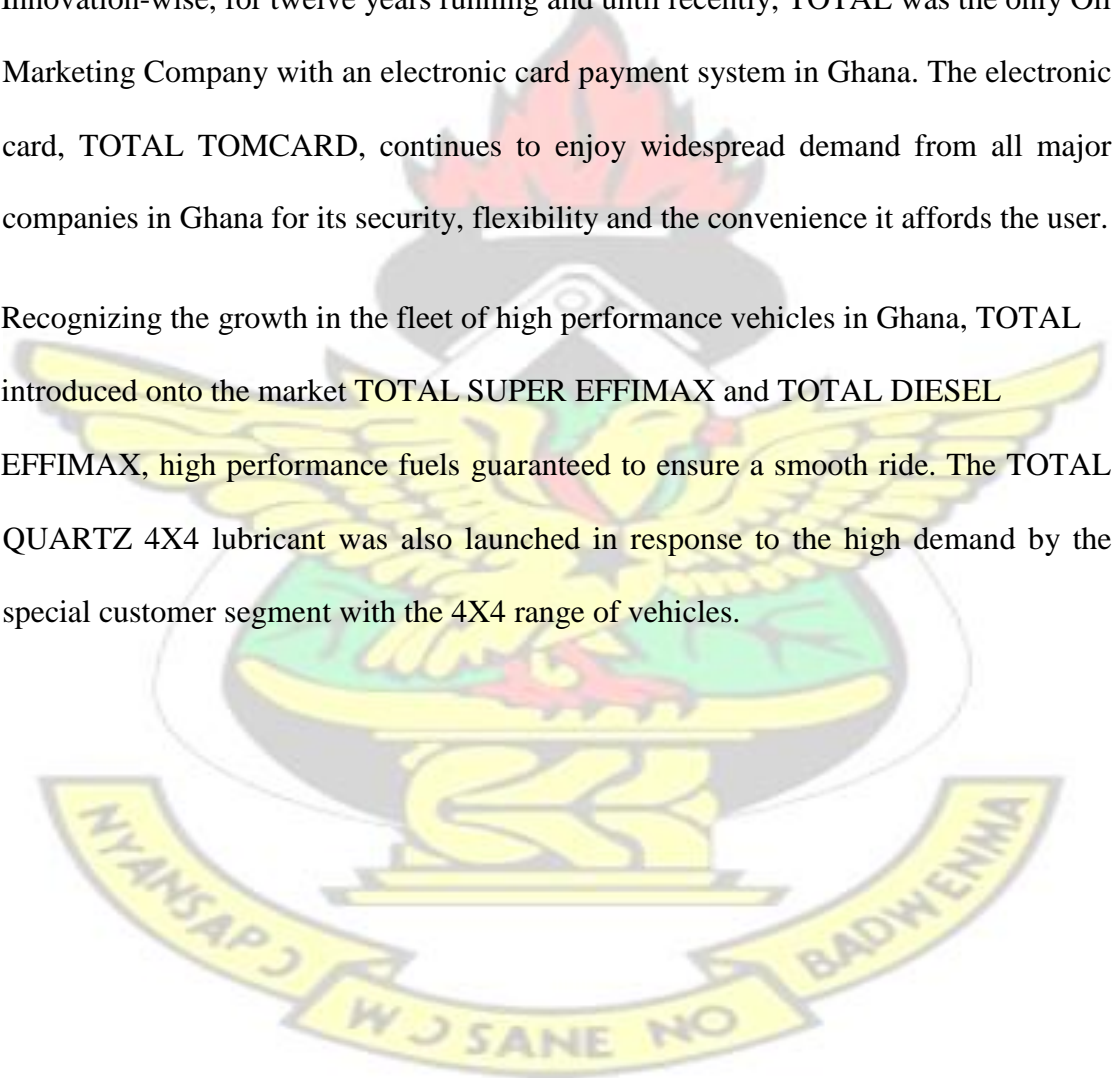
Total Petroleum Ghana Limited (TPGL), hereafter TOTAL, is part of the global Total group, which is the fifth largest publicly-traded integrated international Oil and Gas Company in the world with presence in over **100 countries**. TOTAL's operations in Ghana have spanned 50 years. The Company made its first entry into Ghana as TOTAL Oil Products. TOTAL has undergone various transformations. TOTAL took over the British Petroleum through Elf Oil and French TOTAL finaElf. This was followed by a global merger of TOTAL and Elf; and ultimately the incorporation of TPGL when TOTAL acquired Mobil in Ghana.

This progression, coupled with great respect for quality, standards, achievements and safety, has propelled the subsidiary to the forefront of the Industry. TPGL has been operating in Ghana for more than 50 years and has a high recognition in the Industry. With respect to this, TOTAL is the market leader with a strong brand image in the

Ghanaian market. With the strong brand, TOTAL is well represented in all the ten regions in the country with strategic locations in major cities and towns. TOTAL has the largest network coverage in Ghana (with not less than 210 service stations right across the eastern and southern corridors of the country). The company's range of services to various industries is next to none, spanning the Aviation, Bitumen and Mining industries, besides the Manufacturing and Roads Sectors.

Innovation-wise, for twelve years running and until recently, TOTAL was the only Oil Marketing Company with an electronic card payment system in Ghana. The electronic card, TOTAL TOMCARD, continues to enjoy widespread demand from all major companies in Ghana for its security, flexibility and the convenience it affords the user.

Recognizing the growth in the fleet of high performance vehicles in Ghana, TOTAL introduced onto the market TOTAL SUPER EFFIMAX and TOTAL DIESEL EFFIMAX, high performance fuels guaranteed to ensure a smooth ride. The TOTAL QUARTZ 4X4 lubricant was also launched in response to the high demand by the special customer segment with the 4X4 range of vehicles.



## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS AND DISCUSSION

#### 4.1 Introduction

This chapter covers the presentation of the results, analysis and discussion. The results were obtained from the financial statements of Goil and Total Petroleum Ghana Ltd from 2011-2015 covering a five year period. The results have been presented in tables and graphs for easy interpretation and understanding.

#### 4.2 Demography of respondents

This section looks at the demography of respondents interviewed. It seeks to highlight the educational background, gender, position of the respondents among others.

**Table 4.1- Gender, qualification and number of years respondents have work in position**

RESPONDENT	GENDER	EDUCATIONAL LEVEL	NUMBER OF YEARS WORKED IN POSITION
Administrative manager-Goil	Male	Master's degree	Since 2005
Marketing manager-Goil	Male	Master's degree	Since 1992
Finance manager-Goil	Male	Master's degree	Since 1997
Supply/Warehouse manager-Goil	Male	First degree	Since 1998
Operations manager-Total Ghana	Male	Master's degree	Since 2013
Marketing manager-Total Ghana	Female	Master's Degree	Since 2014
Finance manager-Total Ghana	Male	Master's Degree	Since 2012
Supply/Warehouse manager-Total Ghana	Male	Master's Degree	Since 2012

**Source: Author's construct 2016**

The demography of the respondents interviewed show that they have both educational knowledge as well as the experience having served their various positions for

considerable number of years. These findings of the study, to an extent, increases the reliability of the responses received from the respondents interviewed.

### **4.3 Analysis of trend of working capital management variables**

The trend of working capital variables for the two companies between from 2011-2015 were analyzed. These covered Days inventory outstanding (stock turn over period), days sales outstanding (debtor days), days payable outstanding (creditor days) and cash conversion cycle (CCC) which was used as proxy for working capital management. In all cases, the line graphs for GOIL and that of TOTAL PETROLEUM have been superimposed on a single chart.

#### **4.3.1 Days Inventory outstanding (stock turnover period) from 2011-2015**

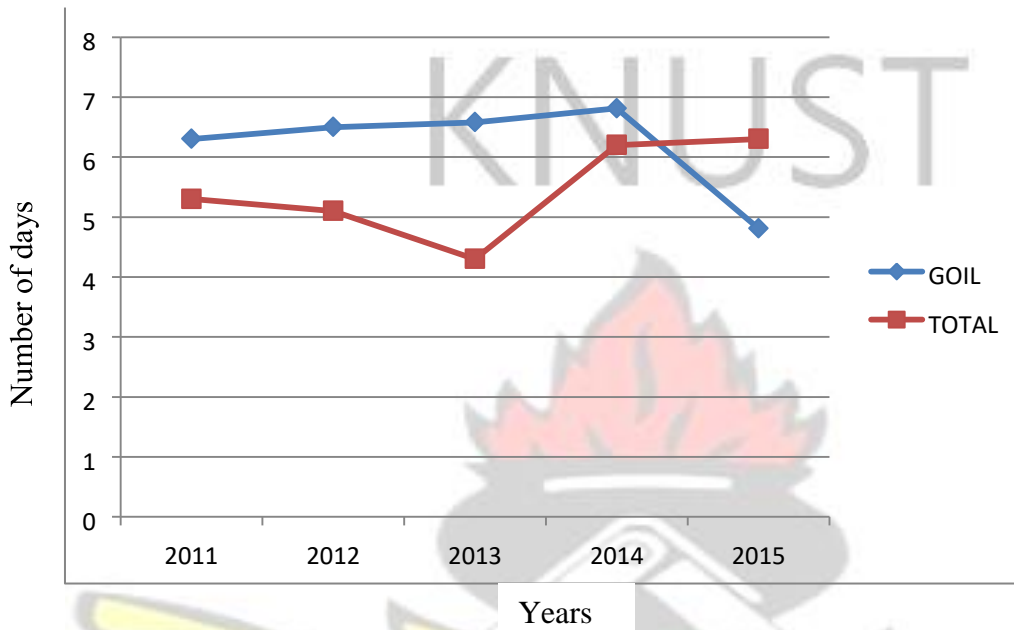
Days inventory outstanding for GOIL shows an increasing trend apart from 2015. GOIL, from 2011 to 2014, used a period of approximately six days (with little variations though insignificant as the years roll on) to sell the finished products to customers. The company however became more efficient in 2015 by reducing stock turnover period significantly by two (2) days to 4.81 days.

The stock turnover period for Total Petroleum Ghana for 2011 to 2015 is undulating relative to that of GOIL. The company used approximately five (5) days to sell the finished products in 2011 and 2012 but the stock days decreased to 4.3 days in 2013, and rose significantly to 6.2 and 6.3 days in 2014 and 2015 approximately

It could be seen from Figure 4.1 that TOTAL has relatively shorter Stock Turn Over period as compared to that of GOIL. The line graph for the latter is slightly above that of the former. The petroleum industry within which the two companies find themselves calls for a very low Stock Turnover period, because of the demand for petroleum

products in Ghana- inelastic. It has been reported in literature that shorter inventory conversion period has positive effect on profitability (Deloof, 2003).

**Figure 4.1: Days Inventory Outstanding (stock turnover period) for GOIL and Total Petroleum Ghana**



**Source: 2011-2015 Financial statement**

#### 4.3.2 Day sales Outstanding (Debtor days) from 2011-2015

The study revealed that in 2011 GOIL was able to collect its sales revenue from debtors within 39.19 days after sales. This figure however increased to 41.65 in 2012 but reduce steadily to 35.04 days and 37.85 days in 2013 and 2014 respectively. It is gratifying to observe that, the company has been very efficient from 2013 to 2012 (preceding years) consistently reducing the number of days receivables are converted to cash. However, GOIL's debtor days increased significantly by more than ten days to 49.92 days but may not any serious liquidity problem.

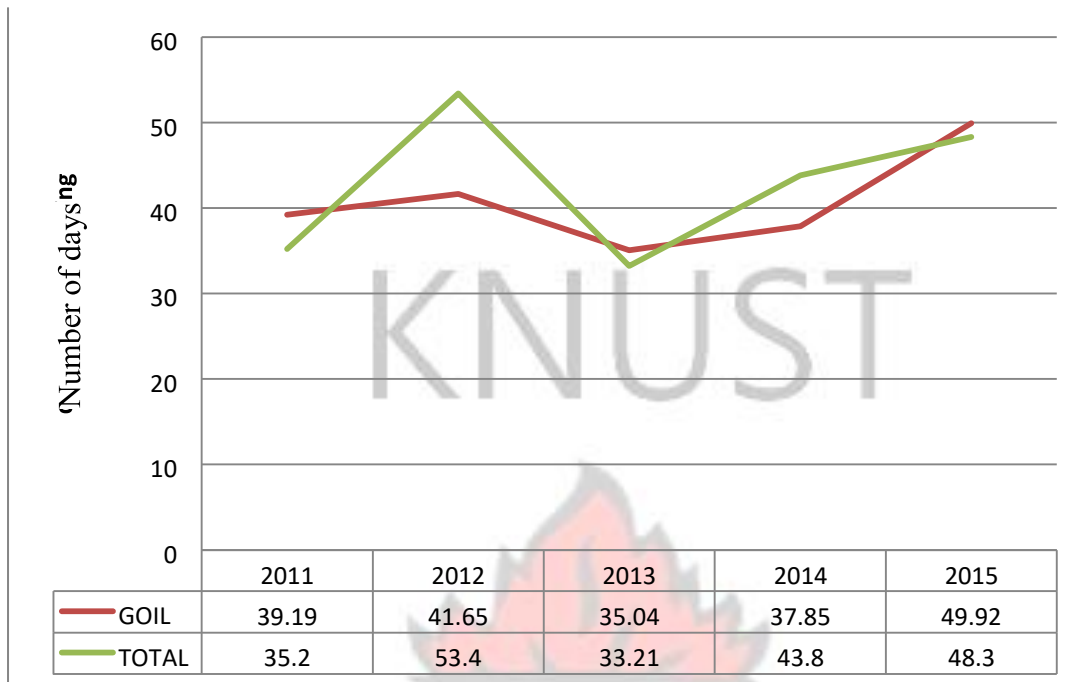
Days sales outstanding of Total Petroleum Ghana is not too different form that GOIL.

In 2011, the company used 35.2 days to collect sales revenue from debtors but this figure increased to 53.40 days in the year 2012 which could bring about some liquidity problems because cash was tied up in debtors for longer periods.

However, in 2013 there was a significant reduction to a low 33.21 days which proved the company's efficiency in debt recovery though the following years recorded steady increases in debtor days, 43.80 days in 2014 and 48.30 days in 2015. Although debtor days for Total Petroleum Ghana have been relatively undulating and inconsistent, the figures have been kept below that of GOIL except 2012. The trend of number of days cash is collected for daily activities and operations for the two companies have been very undulating and unpredictable. This situation stifles policy planning and major managerial decisions.

Increases in receivables conversion period are not signs of good management of working capital. This has the implication of tying up cash needed for daily operations. The decision to seek alternative sources when short term financial obligations have to be met has cost implications which may decrease profitability. However, according to Petersen and Rajan, (1997) trade credit can act as an effective price cut, act as incentive for customers to acquire merchandise at times of low demand (Emery, 1987), allows customers to check that the merchandise they receive is as agreed (quantity and quality) and to ensure that the services contracted are carried out [Smith (1987) cited by Garcí'a-Teruel and Martí'nez-Solano (2007)], and helps firms to strengthen long-term relationships with their customers. This means that it is the duty of management to ensure the most appropriate levels of receivables so that optimal benefits could be reached.

**Figure 4.2 Days sales outstanding (Debtor days) for GOIL and Total Petroleum**



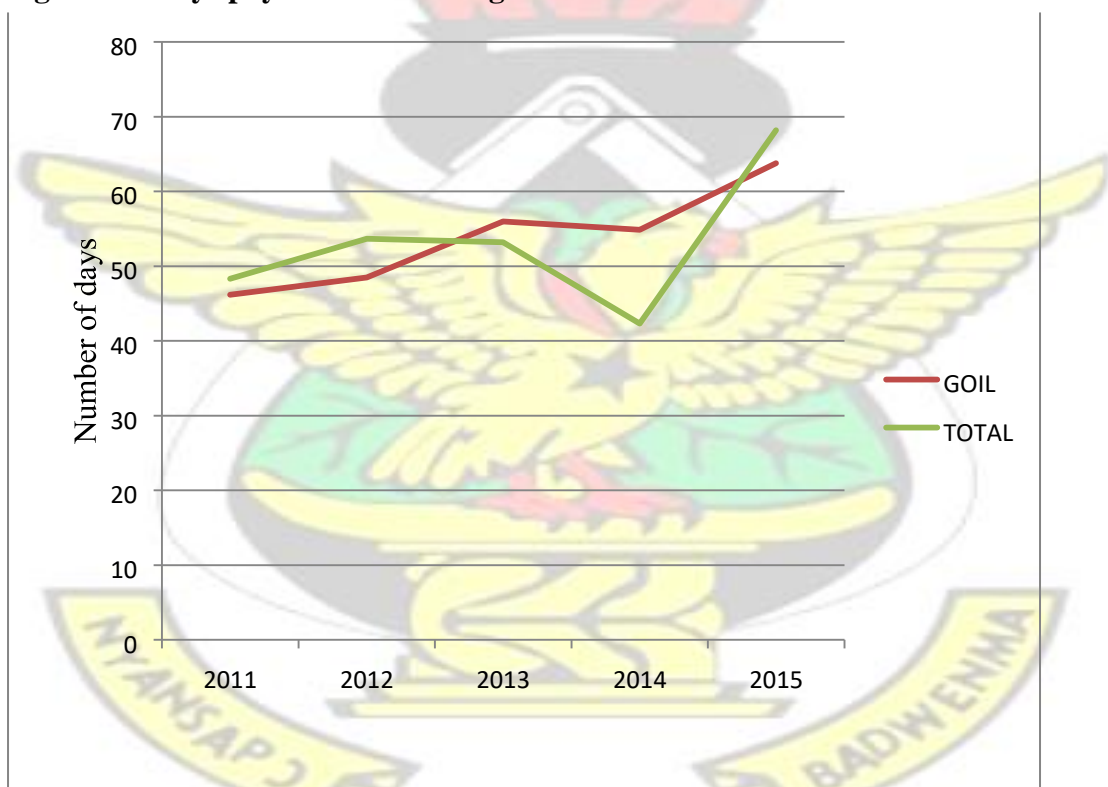
*Source: 2011-2015 financial statement*

### 4.3.3 Days Payable outstanding (Creditor days) from 2011-2015

How long it takes a company to pay its creditors can be explained by creditor days of the said company. Keeping creditors unpaid for very long time may be costly to the company. This may result in loss of opportunities to enjoy trade discount and loss of good will although there are advantages of using it as an inexpensive and flexible source of financing. It is clear that GOIL paid its creditors some few days after it had received proceeds from the sale to debtors. As depicted in Figure 4.3 below, GOIL used 46.20 days (DSO is 39.19 days) to pay its creditors in 2011. Similarly, 48.48 days, 55.99 days, 54.89 days and 63.79 days were used by the company to pay its creditor in 2012, through to 2015 respectively. It was reported by Deloof, (2003) that delaying suppliers gives the firm opportunity to assess the quality of the products bought. GOIL's creditor days increased steadily from 2013 to 2015 to take advantage of Deloof's statement and also increase its funds available for operations.

The creditor days for Total Petroleum Ghana are relatively higher on average than that of GOIL. In 2011, creditor period for TOTAL was 48.32 days but rose to 53.68 days and 53.20 in 2012 and 2013 respectively. However, in 2014, creditor days dropped to 42.31 days, but increased significantly to 68.22 days in 2015. The payables conversion period for Total Petroleum Ghana has been very undulating and inconsistent. It is evident that the length of time taken to pay creditors has been relatively higher for Total Petroleum Ghana compared to GOIL considering the length of time they receive revenue from debtors.

**Figure 4.3 Days payable outstanding for GOIL and Total Petroleum Ghana**



*Source: 2011-2015 Financial statement* Years

#### **4.3.4 Cash conversion cycle from 2011-2015**

Using the Cash Conversion Cycle for working capital management, Padachi, (2006) reported that, the composition of working capital depends on a multiple of factors, such

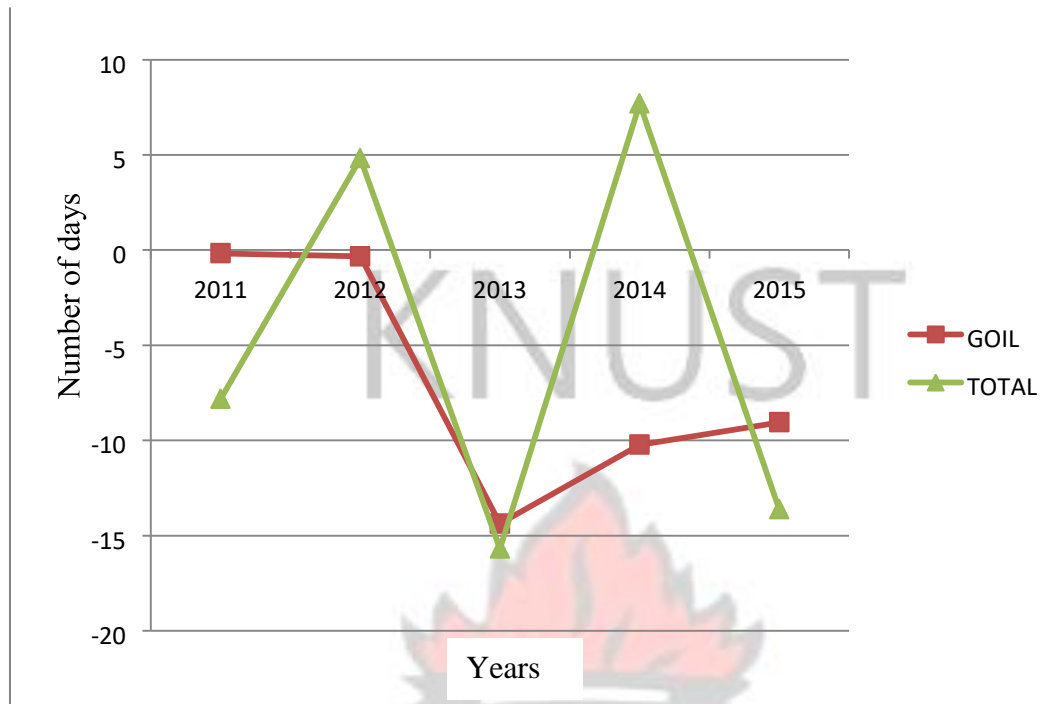
as operating level, level of operational efficiency, inventory policies, book debt policies, technology used and nature of the industry. The companies have had very inconsistent cash conversion cycles within the period under review. In the case of GOIL, a negative cash conversion cycle was recorded throughout the period under review which means it took more days for the company to pay its creditors than the sum of days it used to convert stocks and receivables.

Extending the payables deferral period serves as a source financing but may jeopardize the reputation of the company. The period from 2011 to 2015 for GOIL has seen negative cash conversion cycles (evidence in the appendix section of the study) and is an indication of shorter inventory and receivables management relative to payables management.

The cash conversion cycle of Total Petroleum Ghana in 2011 was -7.82 days which is lower than that of GOIL in the same year. Similar picture is shown in 2013 and 2014. However, in 2012 and 2014, the company used 4.82 days and 7.69 days respectively to sell its products and receive cash from debtors.

Comparing the two companies, it could be seen that GOIL has relatively used a shorter period to convert inventory and receivables to cash relative to its payables. Shorter cash conversion cycle which is a true measure of working capital management has a lot of implications for the company. According to Brigham and Erhardt, (2008), the firms aim at reducing the cash conversion cycle without necessarily hurting operations. This will eventually increase the firm's value because the shorter the cash conversion cycle, the lower the required net operating working capital and the higher the resulting free cash flow.

**Figure 4.4 Cash conversion cycle for GOIL and Total Petroleum Ghana**



*Source: 2011-2015 Financial statement*

#### **4.4 Management of working capital components**

The components of working capital are inventory, receivables and payables. The management of these variables was qualitatively determined through interview sessions with inventory, marketing and finance managers who oversee activities relating to the components of working capital. The management of these variables are discussed below:

##### **4.4.1. Interview with inventory managers**

It was revealed by the inventory manager of GOIL that, there were two main products of the company made up of fuels and special products. The fuels include super, super xp, diesel, diesel xp, liquefied petroleum gas (LPG), kerosene, premix and lubricants while the special products include underground pumps, dispensing pumps, generators etc. same was said by the manager of Total Petroleum Ghana but indicated that they did not sell liquefied petroleum gas. The inventory managers declared that it took them a

maximum of two weeks to re-order products from their suppliers and a minimum of one week. They again revealed that their main functional depot is the one in Takoradi in the Western region where stocks are stored but the liaison office, central depot and Accra plains depot (all within Tema catchment area) have been made operational. In the case of Total Petroleum Ghana, the other depot at Tema was also functional.

They again indicated that among the storage problems usually encountered are depot rules by Tema Oil Refinery (TOR) and Customs Excise and Preventive Service (CEPS). Another problem mentioned was insurance requirements and premiums as well as ordering problems and stock outs. These problems are dealt with by ensuring early ordering process, adherence to supplier conditions and terms. They again indicated that the stocks are strictly insured because of the high risk associated with the products. They revealed that stock outs are occasionally experienced and to deal with some of these problems, they resort to buying with cash from other sources instead of the usual credit purchases.

#### **4.4.2. Interview with sales/marketing manager**

When the marketing managers of the two companies were interviewed, they identified the main customers of the companies as dealers, consumers and resellers. The dealers are made up of those who own their stations and are in joint venture with the companies. The company provides the dispensing pumps and the products while the owners prepare and owns the place. The other group of dealers is the one in which the company owns the station but the management left in the hands of the dealer. There are two types of consumers who are private consumers and government consumers while the third group of customers is resellers who are direct consumers to the products of GOIL and Total Petroleum Ghana.

The managers confirmed that there are various credit terms with all the type of customers. Those dealers who are in joint partnership with them are given 7 days credit in the case of GOIL and 10 days in the case of Total Petroleum while the dealers who occupy GOIL and Total Petroleum Ghana built stations are given 3 days and 5 days credit respectively. The private consumers are given a maximum of 63 days and 60 days credit period for GOIL and Total Petroleum respectively while the government consumers are given a maximum of 31 days credit period in each case. The resellers are the type of customers who are not given any credit policy. The marketing managers indicated that discounts are offered for prompt cash payments. There are occasions of default especially government consumers and the company deals with these by cutting supplies to such customers until they settle their debts. They added that, they are much interested in the resellers because they offer cash payments on the spot. They identified disappointments and failure to settle debts on time as some of the problems. It was emphasized by the marketing manager of GOIL that the notion that the company is a government owned type makes some customers not very loyal in terms of meeting their financial obligations.

#### **4.4.3 Interview with finance manager**

The finance managers revealed that the main suppliers of the companies were Tema Oil Refinery (TOR), Cyrus and Chase petroleum. They again revealed that TOR offered credit period of 15 days, Cyrus offered maximum of 30 days and minimum of 15 days credit period while Chase petroleum offered 2 weeks credit period. Both managers indicated that at times, the companies defaulted in the payment period and when this happened their suppliers, especially Chase petroleum, disconnected them from the supply chain. They further stated the system is automatically set up such that after 15 days in the case of TOR, the system cut them off.

They revealed that they do not extend the terms of the credit contract of the suppliers to that of their customers. Their inability to enforce the terms of the contract with their customers was identified as a major challenge confronting the outfit. Again they added that there is no system for monitoring, regulating or synchronizing the activities of the functional areas of the company. They therefore suggested a software system which is in development stage- that could link all the players in the inventory, receivables and payables sections to ensure effective supply chain management.

#### **4.5 Working capital management strategies**

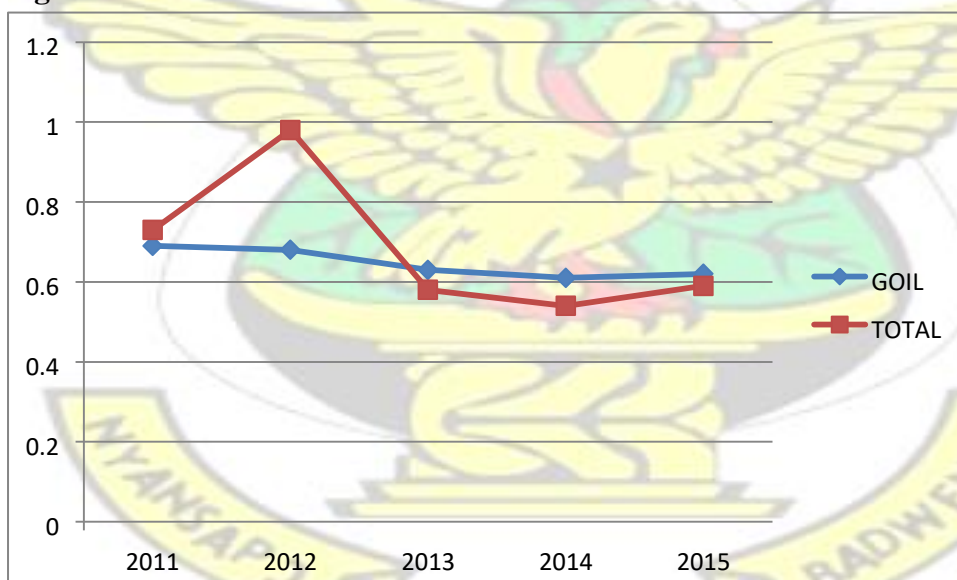
According to Padachi, (2006), the management of working capital is important to the financial health of businesses of all sizes. The amounts invested in working capital are often high in proportion to the total assets employed and so it is vital that these amounts are used in an efficient and effective way. The ratio of current assets to total assets determines a company's working capital management strategy as to whether aggressive or conservative policy is being followed.

It could be seen from Figure 4.4.1 that GOIL adopts a more conservative investment policy because apart from the first two years (2011 and 2012) which saw the figures of Total Petroleum soaring above that of GOIL, all other years has seen the graph of GOIL above that of Total. This is an indication that the current asset is a major component of total assets and that GOIL has invested more in short term assets in order to remain very liquid. In 2011, GOIL's ratio of current assets relative to total assets was 0.69 and dropped to 0.68 in 2012 whilst that of Total Petroleum was 0.73 and increased to 0.98 the following year. GOIL recorded 0.63, 0.61 and 0.62 in 2013, 2014 and 2015 respectively. During the period, Total Petroleum recorded 0.58, 0.54 and 0.59 respectively. Both companies are therefore seen to have invested significantly in current

assets but GOIL has shown more consistency as compared to TOTAL in the last five years.

Total Petroleum Ghana also adopted a conservative working capital policy in the years under review. According to Weinraub and Visscher, (1998), a more conservative policy of working capital management places a greater proportion of capital in liquid assets. The implication of this is a sacrifice of some profitability. For fear of not being able to meet short term obligations, a company may want to cushion up in more liquid assets so that short term obligations could be met thereby avoiding possible financial distress which may result in possible bankruptcy. The nature of the companies as marketing companies also do not favour heavy investment in fixed assets or other non-current assets and hence the pursuance of a conservative working capital management policy.

**Figure 4.4.1 Conservative Investment Policies of GOIL and Total Petroleum**

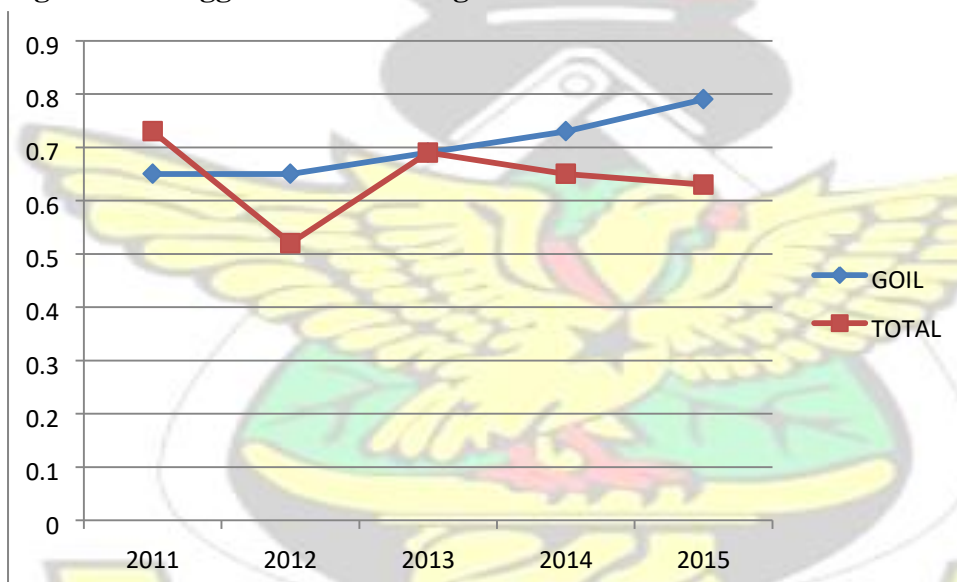


**Source: 2011-2015 Financial statement**

The other side of working capital management strategy or policy is the financing of operations. This is given as current liabilities expressed as a ratio of total assets and it measures which portion of assets are financed by current liabilities. According to Weinraub and Visscher, (1998), the current liability and total assets ratio also gives a

clue to the kind of financing policy being followed by the company. It could be seen from Figure 4.4.2 that GOIL has recorded relatively higher aggressive financing ratios than Total Petroleum Ghana. Apart from 2011 where the ratios of Total Petroleum went above that of GOIL, the latter has recorded figures above that of the former. The results is indicative of the fact that, GOIL utilizes higher levels of current liabilities and less long term debt because it was reported by Nazir and Afza (2009) that higher ratios imply relatively aggressive financing policy. It should however be noted that, using too much of current liabilities has implications and potential to expose the company to financial distress since a lot of short obligations has to be met (Brigham and Erhardt, 2008).

**Figure 4.4.2 Aggressive Financing Policies of GOIL and Total Petroleum**



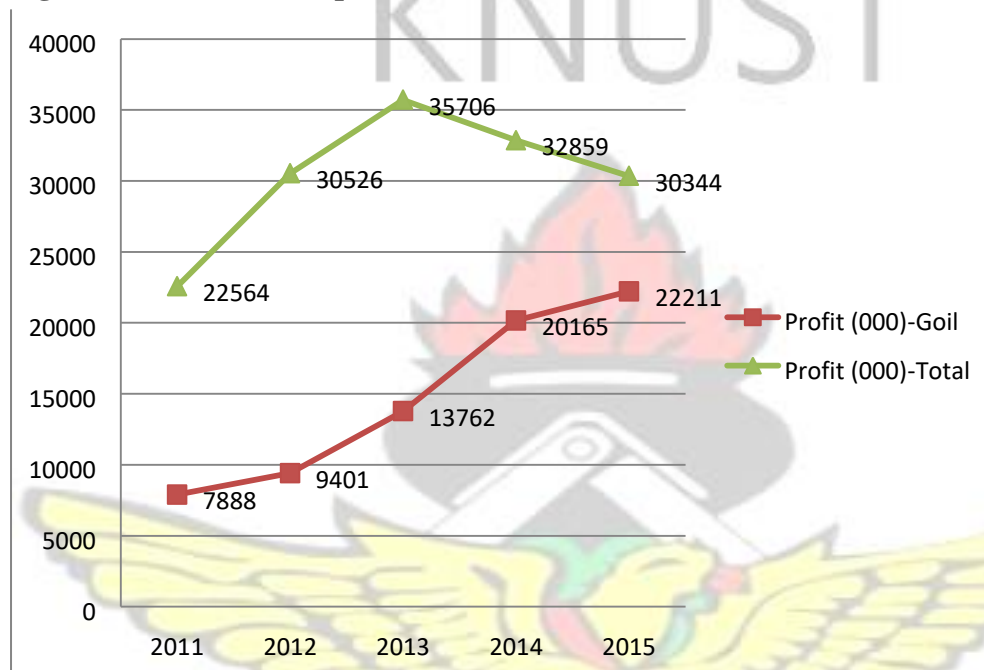
*Source: 2011-2015 Financial statement*

#### **4.6 Effect of Working Capital on Profitability of Goil & Total**

This section of the study looks at the effect of working capital policy decisions on the profitability of Goil and Total petroleum from 2011 to 2015. Net profit after tax figure for Goil has seen consistent increase over the years under review from Gh 7.8m in 2011 to Gh 9.4, Gh13.7, Gh 20.1 and Gh 22.2 in 2012, 2013, 2014 and 2015 respectively. Total Ghana however experienced increases in net profit after tax in 2011, 2012 and

2013 (Gh 22.5m, Gh 30.5m and Gh35.7m). 2014 and 2015 recorded reductions in the net profit after tax for Total Ghana in the region of Gh 32.8m and Gh 30.3m respectively. Figure 4.5 below shows the trend of net profit after tax of Goil and Total Ghana for the period under review.

**Figure 4.5 Trend of net profit after tax of Goil and Total Ghana**



**Source: 2011-2015 Financial statement**

As revealed by many researchers, companies constantly trade-off the need for liquidity and profitability. Companies that invest more in current assets have adequate liquidity to meet maturing obligations and the expense of higher investment returns and vice versa. Both companies adopt a conservative investment policy and for that their profit would be expected to decrease. This however is not the case of Goil. Though the company adopts a conservative investment policy, profits has increased considerably over the years under review. This result is attributable to the company's restructuring which aimed at minimizing inefficiencies. The case of Total Ghana is a bit different from Goil. The company recorded increases in the profit figures though it adopts a conservative investment policy but eventually declined in 2014 and 2015. The study

revealed that the fall in net profit is as a result of adverse changes in exchange rates which increased the operational expenses of the company.

# KNUST



## CHAPTER FIVE

### SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSIONS

#### 5.1 Introduction

The study mainly aimed at investigating the trend of inventory conversion period, receivables conversion period, payables deferral period, cash conversion cycle as a measure of working capital management and the working capital management strategy being followed by GOIL and Total Petroleum Ghana. The study mainly used secondary source of data studying the financial statements for a seven year period from 2011-2015.

#### 5.2 Summary of Major Findings

It was found that GOIL had an average inventory conversion period of 5.76 days while the receivables conversion period was 40.78 days. The payables deferral period was 53.87 days. Total Petroleum Ghana also had 4.36 days, 42.78 days and 53.15 days respectively for inventory, receivables and payables conversion periods.

A negative cash conversion cycle which was used as a measure of working capital was recorded for both GOIL and Total Petroleum Ghana. The main types of products offered by GOIL are fuels and special products. The fuels include super, super xp, diesel, diesel xp, liquefied petroleum gas (LPG), kerosene, premix and lubricants while the special products include underground pumps, dispensing pumps, generators etc. Total Petroleum Ghana offers these same products apart from liquefied petroleum gas (LPG).

The main customers of the companies were identified as dealers, consumers and resellers while the main suppliers are TOR, chase petroleum and Cyrus.

The average current asset to total assets ratio for GOIL was 0.65 while that of Total Petroleum Ghana was 0.68. The current liability to total assets ratio was averagely 0.70 for GOIL whilst that of Total Petroleum Ghana was 0.68. Total Petroleum Ghana pursued a conservative investment policy but aggressive financing policies due to its percentage of commitment of current assets and current liabilities to total assets. Similarly, GOIL pursue an aggressive financing but conservative investment policies due to the percentage of current liabilities and current assets committed into total assets. There are significant differences in the cash conversion cycles of two companies. However, there are no significant differences in the working capital management strategy or policy pursued by the two oil marketing companies listed on the stock exchange.

The net profit after tax for both companies increased considerably over the years under review except for Total Ghana which had a decline in profit figures in 2014 and 2015, though both companies employ a conservative investment policy. The result is attributed to company restructuring and adverse changes in exchange rate in the case of Goil and Total Ghana respectively.

### **5.3 Conclusions**

It could be concluded from the study that the company has a low inventory conversion period compared to Total Petroleum Ghana. However, the latter has lower receivables and payables deferral periods as compared to the former. GOIL has a negative cash conversion cycle and therefore shorter cash conversion cycle as compared to Total Petroleum Ghana. Total Petroleum Ghana follows a mixed working capital management strategy. The company's investment and financing policies shows

relatively higher investment in current assets and current liabilities as fractions of its total assets. The case of GOIL is not different from that of Total except that GOIL is seen to be more aggressive and more conservative in managing working capital.

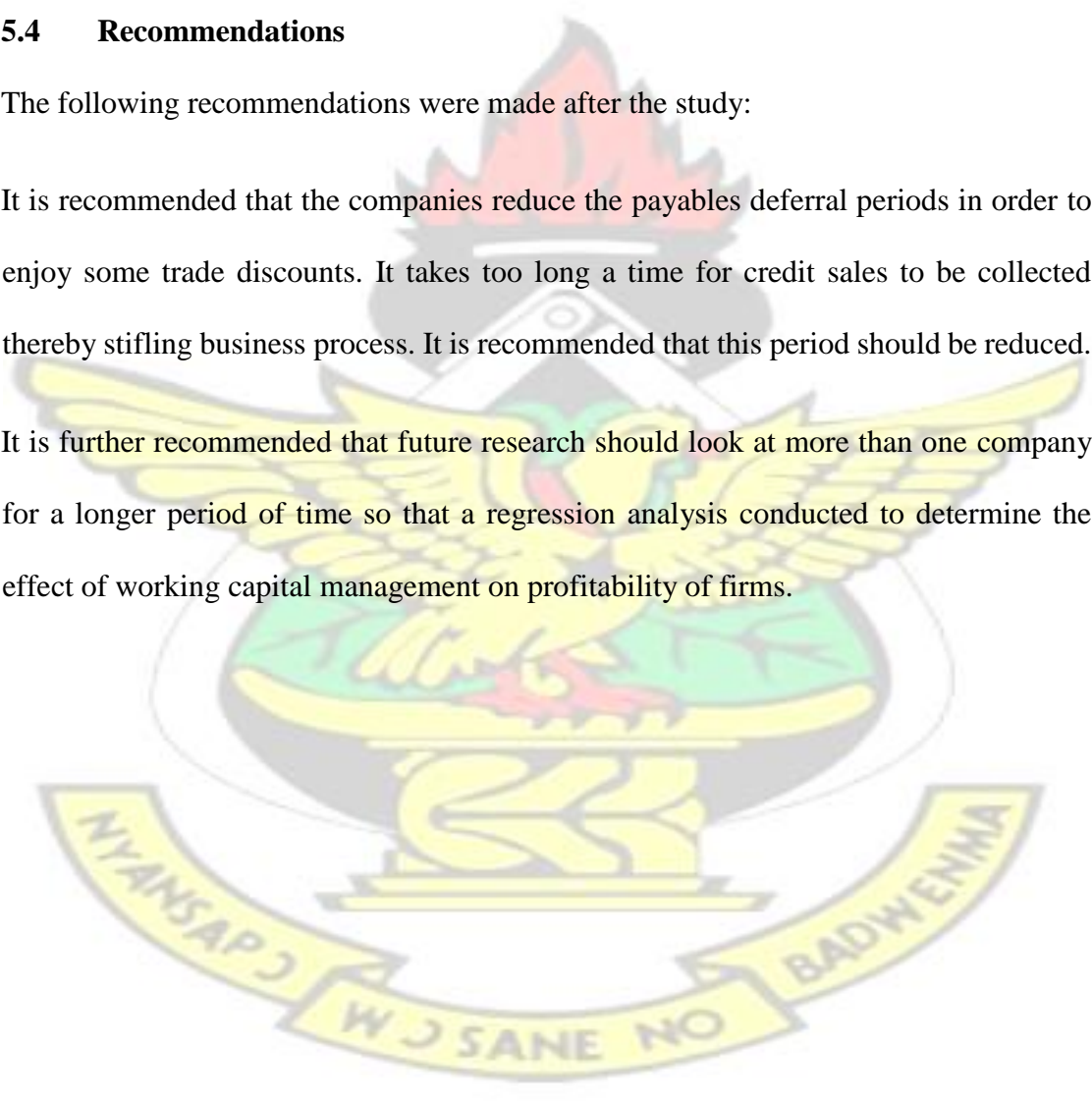
There are significant differences in the cash conversion cycles of GOIL and Total Petroleum Ghana but there are no significant differences in their working capital management policies or strategies.

#### **5.4 Recommendations**

The following recommendations were made after the study:

It is recommended that the companies reduce the payables deferral periods in order to enjoy some trade discounts. It takes too long a time for credit sales to be collected thereby stifling business process. It is recommended that this period should be reduced.

It is further recommended that future research should look at more than one company for a longer period of time so that a regression analysis conducted to determine the effect of working capital management on profitability of firms.



## REFERENCES

- Blinder A. S. and L. J. Maccini (1991) The Resurgence of Inventory Research: What Have We Learned? *Journal of Economic Survey*, 291-328
- Block, B. S. and Hirt, G.A. (1992). *Foundation of Financial Management*, 6<sup>th</sup> ed,- USA.
- Brealey, A. R., and Myers, C. S. (2003), *Principles of Corporate Finance*.7<sup>th</sup> Edition, Irwin/McGraw Hill, Page 817-834.
- Brennan,M., Maksimovic, V. & Zechner, J. (1988). Vendor Financing: *Journal of Finance*, 43 pp. 1127-1141.
- Chase, R. B, Jacob F. R. & Aquilano N. J. 2004. *Operations Management for Competitive Advantage*, 10<sup>th</sup> ed. International ed, MC Graw Hill. NY.
- Danielson M. and J. Scott (2000) “Additional Evidence on the Use of Trade Credit by Small Firms: The Role of Trade Credit Discounts”, Working Paper, SSRN Electronic Library.
- Deloof M. (2003). “Does Working Capital Management Affect Profitability of Belgian Firms? *Journal of Business, Finance and Accounting*. pp, 573-587.
- Eliehausen G. E. and J. D. Wolken (1993) “The Demand for Trade Credit: An Investigation of Motives for Trade Credit Use by Small Businesses” Working Paper, The Federal Reserve Board
- Emery G. W. (1987)-An Optimal Financial Response to Variable Demand, *Journal of Financial and Quantitative Analysis* 22 (pp.209-225).

- Farragher, E., R. Kleiman, and A. Sahu.(1999), Current capital investment practices. *Engineering Economist* 44 (2) (pp.137-150).
- Fazzari S. M. and B. Petersen (1993) “Working Capital and Fixed Investment: New evidence on Financing Constraints”, *Rand Journal of Economics* 24 (pp.328342).
- Filbeck, G. and Krueger, T, (2005), an Analysis of Working Capital Management Results Across Industries, Fall 2005: Vol. 20 (2).
- Frank, J,F. & Pamela, P. (2003) Financial management and analysis (2<sup>nd</sup> ed.): John Wiley & Sons, Inc., Hoboken, New Jersey
- Hitt, Ireland & Hoskisson (2005) Strategic management: Competitiveness and Globalization, Concepts (6<sup>th</sup> ed.): Thomson Corporation: USA
- Joshi, R. N. (2000) - Cash Management Perspective: Principles and Practices, New age, International (P) Ltd.
- Kakulu J. (2007). Finance decision and the Business. Kampala. Fountain Publishers
- Kayanula D, and Quartey. (2000). Paper on the Policy Environment for Prompting Small and Medium-Sized Enterprise in Ghana and Malawi University of Manchester: Crawford House.
- Keynes, J. (1973). “The Collected Writings of John Maynard Keynes-vol.7. The general theory employment interest and money”, 14<sup>th</sup> ed, London Macmillan.
- Khan, M. Y and Jain P .J. (2007), Financial Management: Tax, Problems and Cases. 5<sup>th</sup> ed, Tata, MC Graw Hill Publishing Company Limited

Khanka, SS (2008) *Entrepreneurial Development*: Chandy and company: New Delhi  
Kitty, O., L (2006) *Business and Administrative communication* (7<sup>th</sup> ed.): Mac Graw-Hill, Irwin New York.

Liedholm, C., & Mead, D. (1987) *Small Scale Industries in Developing Countries: Empirical Evidence and Policy Implications*. International Development Paper , 9.

Machiraju H. R. (1999). *Introduction to Project Finance and an Analytical Perspective*- Vikas Publishing House P. V. T Ltd.

Mclaney, E. J. (2000). *Business Finance, Theory and Practice* 5th ed, University of Plymouth Business School, Financial Times Pitman Publishing.

Ng C. K., J. K. Smith and R. L. Smith (1999)- Evidence on the Determinants of Credit Terms Used in Inter firm Trade, *Journal of Finance* 54 (pp.1109-1129).

Peel, M. and N. Wilson (1996) “Working Capital and Financial Management Practices in the Small Firm Sector”, *International Small Business Journal* 14 (2), pp. 52-68.

Petersen M. A. and R. G. Rajan (1997) “Trade Credit: Theories and Evidence”, *Review of Financial Studies* 10 (pp.661-691).

Richards, V. D and Laughlin E. L- A cash Conversion Cycle Approach to Liquidity Analysis *Financial Management*, (spring 1980) pp.28-32.

Shin H. H., L. Soenen (1998). “Efficiency of Working Capital and Corporate Profitability”, *Financial Practice and Education* 8 (pp. 37-45).

Smith J. K. (1987). “Trade Credit and Informational Asymmetry”, *Journal of Finance*

42 (pp. 863-872).

Smith K. (1980). Profitability versus Liquidity Tradeoffs in Working Capital Management, in Readings on the Management of Working Capital, Ed. K. V. Smith, St. Paul, West Publishing Company, pp. 549-562.

Srinivasan S. (1999). Cash and Working Capital Management, Vikas Publishing House

Steel, W. F and Webster, L. M.(1991). Small Enterprise in Ghana Responses to Adjustments- World Bank Industry and Energy Dept, Pre Industry Series. 1-71

Van Horne, J. c. (2000). Financial Management and Policy, 11<sup>th</sup> ed Prentice Hall of India Ltd

Weston, I. F. and Copland, T. E.(1989). Management Finance 8<sup>th</sup> ed (The Dryden Press,).

Whited T. M. (1992). “Debt, Liquidity Constraints, and Corporate Investment: Evidence from Panel Data”, *Journal of Finance* 47 (pp.1425-1460).

Wilner B. S. (2000). “The Exploitation of Relationships in Financial Distress: The Case of Trade Credit”, *Journal of Finance* 55 (pp. 153-178).

Yankey, D. B. (1974). Financial Management Scope and Methodology: *Journal of Management Studies*, 2<sup>nd</sup> Series, Vol 7 (2).

## APPENDIX ONE

TABLE 1- Days Inventory Out-standing from 2011-2015

YEARS	GOIL	TOTAL
2011	6.3	5.3
2012	6.5	5.1

2013	6.58	4.3
2014	6.81	6.2
2015	4.81	6.3

TABLE 2-Days Sales Out-standing from 2011-2015

<b>YEARS</b>	<b>GOIL</b>	<b>TOTAL</b>
2011	39.19	35.20
2012	41.65	53.40
2013	35.04	33.21
2014	37.85	43.80
2015	49.92	48.30

TABLE 3-Days Payables Period from 2011-2015

<b>YEARS</b>	<b>GOIL</b>	<b>TOTAL</b>
2011	46.20	48.32
2012	48.48	53.68
2013	55.99	53.20
2014	54.89	42.31
2015	63.79	68.22

TABLE 4- Cash Conversion cycle from 2011-2015

<b>YEARS</b>	<b>GOIL</b>	<b>TOTAL</b>
2011	-0.17	-7.82
2012	-0.33	4.82
2013	-14.37	-15.69
2014	-10.23	7.69
2015	-9.05	-13.62

TABLE 5-Investment Policies from 2011-2015

<b>YEARS</b>	<b>GOIL</b>	<b>TOTAL</b>
2011	0.69	0.73
2012	0.68	0.98
2013	0.63	0.58
2014	0.61	0.54
2015	0.62	0.59

TABLE 6-Financing Policies from 2011-2015

<b>YEARS</b>	<b>GOIL</b>	<b>TOTAL</b>
2011	0.65	0.73
2012	0.65	0.52
2013	0.69	0.69
2014	0.73	0.65
2015	0.79	0.63

KNUST

## **APPENDIX TWO**

### **INTERVIEW GUIDE**

#### **GENERAL INFORMATION**

What is your position in the organization?

How long have you worked for the institution?

Does the business keep financial records of the operations?

If yes to question 3, what kinds of records are kept?

What is the academic qualification of the personnel who keeps the records?

Does the owner, manager and or account personnel attend workshops or seminars aimed at improving accounting practices in the business

If yes to question 6, how beneficial has the training been to your enterprise?

#### **LIQUIDITY (CASH) MANAGEMENT**

How does the company finance its operations?

Do you normally get cash target in advance for your business?

How do you manage the difference in your required cash where there is shortage?

Do you write down such estimates of cash requirement as a plan or budgeted document?

How do you control the proceeds generated on a daily basis?

Do you spend within your budget?

Do you normally record all cash transactions?

How often do you send money to the bank?

How does the business invest its surplus cash?

### **MANAGEMENT OF INVENTORY**

What are the sources of your goods

Do you often experience a large pile-up of your goods?

Do you prepare a budget for sales?

Do you keep records of your goods or materials?

Do you do regular stock checks?

If yes in question 5, how often do you do it?

Do you have a re-order level policy for requesting stock or materials?

What is the minimum amount of stock that you keep? (Answer can be given in cedis or quantity)

What is the maximum amount of stock that you keep for your products?

What are the most frequent issues/challenges that arise from managing your inventory?

## **ACCOUNTS RECEIVABLES**

Do you sell on credit?

What category of customers, if any, do you offer credit to?

If yes to question 1, how many days or period do you give to your customers to pay their bills?

If no to question 1, then give reasons

Do you undertake formal credit investigation before granting credit to your customers?

What security is required to offer credit?

What evidence exists for a customer's indebtedness?

Do you give cash discount to your customers?

How long does it take, on the average, to receive money from debtors?

Do you usually record bad debts?

What actions are taken on customers who refuse to pay their debt?

## **CURRENT LIABILITIES (ACCOUNT PAYABLES)**

Do you sometimes purchase goods on credit?

If yes to question 1 above, how many days or period are you given by your creditors to settle the bills?

If no to question 1 above, how does that affect your operation?

Do you negotiate with your creditors to extend the credit period?

Do you use short-term funds of the business for long-term investment?

Which of the components of working capital do you give preference to and why?

From your own experience, would you advice business owners to place premium in any particular one or you think they are of equal importance or value?

