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TOPIC:

**WORKING CAPITAL MANAGEMENT AND ITS EFFECTS ON
FUNDING STRATEGIES: THE CASE OF TOTAL PETROLEUM
GHANA LIMITED (TPGL)**

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**A long essay submitted to the Department of Banking and Finance. Christian Service
University College in Partial Fulfilment of the Requirements for the Degree of
BUSINESS ADMINISTRATION**

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DECLARATION

We declare that the content of this work is the result of our own effort through research and that the work has not been presented for any Certificate, Diploma or Degree elsewhere. Those whose works were read and partly used are duly acknowledged in the text. We therefore present this for the award of Bachelor of Business Administration, (Banking and Finance).

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DEDICATION

This work is especially dedicated to the Lord God Almighty, whose grace has sustained us to this far in our academic endeavours. This work also goes to our husbands and wives for their supports towards this project work. Our final dedication goes to our parents and siblings, not forgetting all the friends, who have contributed significantly towards the successful completion of this work.

ABSTRACT

Ensuring the maximization of returns, profitability and the value of a firm is important for its survival. To achieve this, one vital strategy is the efficient management of the firm's working capital. Balancing liquidity and profitability in the petro-chemical industry which is cash intensive where Total Petroleum Ghana Limited (TPGL) is found is very important in ensuring success. In view of this, the study sought to investigate how the management of working capital at TPGL affects its funding strategies. The study also focused on how the various major components of working capital such as cash and marketable securities, accounts receivables, inventory and current liabilities are managed. The study used purposive sampling to select respondents from the management board of TPGL. Interview and questionnaire were used to gather primary data from the respondents while secondary data was sourced from annual reports, financial statements etc. The data gathered was analyzed with SPSS where graphs, tables and percentages were used in representing some of the findings. It is evident from the results that TPGL has a cash management policy involving cash budgeting and fund flow statement and there is no specific model in the management of its working capital. It was revealed that the company has access to short-term financing mainly overdraft facilities and credit lines from their bankers and supplemented by stretched payables. Based on these findings, it is highly recommended that although TPGL operates in an industry which is cash intensive and should ensure balancing liquidity and profitability by not keeping too much cash in the name of liquidity at the expense of profit that could be gained from investing some of its cash. .

Conclusively, efficient working capital management will ensure high profitability and sustainability of the firm.

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LIST OF ABBREVIATIONS

ACCA	Association of Certified Chartered Accountant
ACCE	Association of Certified Chartered Economist
ACP	Average Collection Period
AS	Aging Schedule
BP	British Petroleum
CCC	Cash Conversion Cycle
CIM	Chartered Institute of Marketing
CIMA	Chartered Institute of Management Accountant
DSO	Days Sales Outstanding
EOQ	Economic Order Quantity
ICA	Institute of Chartered Accountants
JIT	Just-In-Time
NPV	Net Present Value
SEC	Securities and Exchange Commission
SPSS	Statistical Package for Social Scientist
TOR	Tema Oil Refinery
TPGL	Total Petroleum Ghana Limited

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter presents the introduction, the background of the study, the research problem statement, objectives of the study, research methodology, scope and limitation of the study as well as the organization of the study.

1.1. Background Information

Working capital is the capital invested in different items of current assets needed for the business, viz, inventory, debtors, cash and other current assets such as loan and advances to third parties (Sylaja, 1999; Keown1996). Maintaining working capital up to a certain level ensures the sustained operations of the firm to guarantee that profits are generated. Shortage however leads to lower capacity utilization, lower turnover and lower profit. Excess working capital also leads to idle funds which subsequently affect profitability, lending credence to the dictum “Adequacy is a virtue, surfeit is not” (Sylaja 1999). Sylaja (1999) therefore summarizes net working capital as the difference between current assets and current liabilities while gross working capital is the sum of all working capitals available to an organisation. Keown (1996) has emphasized that “working capital management is concerned with the management of the firm’s net working capital or the difference in the firm’s current assets and current liabilities”. In continuing his analysis of working capital management, he reiterated that a firm’s working capital decreases, while its profitability rises. This increase in profitability is however done at the expense of an increased risk of illiquidity.

Credit soundness is usually related to a positive net working capital. This is measured by the ratio obtained by dividing the currency value of current assets by the currency value of current liabilities. The interpretation here is that the larger the ratio, the more solvent the firm.

1.2. Problem Statement

The effect of working capital on the firm's profitability has been introduced by many researchers. The importance of the working capital stems from the fact that working capital level has an impact on the firm profitability and risk level that the firm can carry, which in turn has an effect on the value of the firm, (Smith, 1980).

The management of working capital is therefore considered as one of the most important strategy that the firm should take into consideration, and that firms should maintain adequate level of the working capital to meet its current obligations. This implies that firms should not hold an excess amount of current assets because that will have an effect on its investment opportunity. As observed by Sylaja (1999) and Keown (1996), maintaining working capital at an appreciable level is good for the organization's health.

When it is either too low or too huge, the organization does not derive the maximum benefit from its working capital. It is therefore the job of the financial manager to ensure that working capital is kept at an optimal level to ensure the full realisation of the potentials of the organisation.

Almeida et al (2004) state the working capital can be a substitute for cash. Therefore the changes in net working capital affect the cash holdings.

Besides, the changes in short-term debt could be a substitute for cash, because firms may use short-term debt as financial resource.

Shin & Soenen (1998) point out that the more efficient the firm is in managing its working capital, the less the requirements for external financing and the better financial performance. Previous and recent studies of corporate cash holdings explained by the working capital management provide an anchor for further researching on this topic, more supportive explanations are desirable. As Abel (2008) remarks that theory on the working capital management perspective explaining the corporate cash holdings is not very developed. In this case study, we explore the relationship between the working capital management and the effects on funding strategies, investigate the interaction between them, how these two affect each other.

A lot of the impinging factors on working capital decisions are outside the jurisdiction of the financial manager, for instance, demand for goods or service that the organisation produces. How then do financial managers ensure that they are in control over factors that ensures the continual keeping of the working capital of the organisation at an optimal level? What asset allocation decisions must the finance manager make to ensure the working capital of the organization is kept optimum? How does the company manage its cash and marketable securities, inventories, receivables and current liabilities? How does the organization ensure that its regulatory requirements as far as minimum capital requirement in its industry are kept and that this does not generate penalties?

This research is designed to help fill the gap in the literature and to help financial managers to set their optimal financing and investment policies by introducing them to theoretical and empirical areas of this subject on working capital management.

The company for this case study is Total Petroleum (Ghana) Limited (TPGL) and the above mentioned questions would be asked with this company in mind.

The company's specific scenario will be the focus of this study and generalization will be made for the study in the industry it practices its trade and not for the entire business landscape in Ghana.

1.3. Objectives of the study

In the light of the problems stated above, the objectives to be pursued in this study will be as follows:

- To identify how TPGL manages the main components of its working capital, being cash and marketable securities, accounts receivables, inventory and current liabilities.
- To examine how (TPGL) manages its credit to ensure it does not adversely affect its working capital.
- To make appropriate recommendations on how TPLG can manage its credit to meet working capital requirements.

1.4 Research Questions

1. What is working capital all about?
2. How does TPGL manage the main components of its working capital?
3. How does TPGL manage its credit to ensure it does not adversely affect its working capital?

1.5. Justification of the Study

Working capital management has been an important aspect of business since the inception of capitalism but has become even more imperative in the twenty-first century, especially with the presence of keen competition in the business environment. The current research work aims to establish the management of working capital and its impact on funding strategies at TPGL.

The significance of this study is thus; to help draw attention to the fact that working capital is a valuable element to the Ghanaian financial system that needs to be studied carefully, especially in the area pertaining to business growth and development. In this, the study will help the researchers to gain better understanding of practical issues concerning the topic under study. It would then seek to establish and inform management of TPGL on current issues in terms of capital management.

The identification of constraints and solutions will lead to high performance sought by all entrepreneurs in this type of industry targeting growth and profit. Moreover, policy makers will find the study useful as it would help in ascertaining the appropriate level of working capital requirement for the industry. There is again no doubt that the outcome of the study will add up to the existing body of literature on the subject matter especially with specific reference to Ghana.

1.6 Limitations of the study

Basically, time and financial constraints were some of the major limiting factors of this study. The researchers had a time constraint as the time period for the research work was very limited. Time is therefore a commodity that is limited in supply in this case.

One would agree that juggling academic work and a degree research work together is involving, especially with the frequent travels for data collections.

Furthermore, financial constraint resulting from the numerous printing jobs and travels is equally inseparable. Also, for security purposes, certain information was withheld from the general public (including the researchers) during the questionnaire administration and data acquisition; a typical example was data covering the much recent years of their operations.

Besides, probable errors in the collection and analysis of data might be a limitation to the study and care must therefore be taken in terms of generalization. However, the authenticity of the findings resulting from the study cannot be underestimated despite the limitations.

1.7 Organization of the study

The study shall be organized into five chapters as follows:

- Chapter one: It constitutes the introduction and the background to the study as well as the statement of the problem, objectives of the study, significance of the study, limitations as well as the organisation of the study.
- Chapter two: Entails a review of related literature in the principal area of working capital management.

- Chapter three: This chapter contains information on the study area, in this TPGL.
- Chapter four: This chapter, basically, contained the analysis of the response that will be obtained from the respondents. It also includes further discussions of the findings that will be arrived at.
- Chapter five: Discusses the summary of the study, conclusions and recommendations suggested to the study.

CHAPTER TWO

LITERATURE REVIEW

2.0. Introduction

The literature that would be reviewed in relation to this work will consider the following areas; definition of relevant key terms, working capital policy, working capital from the perspective of different authors, components of working capital, etc.

2.1 Definitions of Key terms

The term working capital is used in different ways by different writers including economists, management scientists, and financial theorists and practicing business executives. Diverse approaches and varying levels of analysis have been used by them in their definition and have different implications.

There are two major concepts of working capital which usually borders on who is defining the term. These are net working capital and gross working capital (Sylaja, 1999, Van Horne and Wachowicz, 2008). According to Van Horne and Wachowicz (2008), while accountants usually define the terms in the purview of net working capital, financial analyst and management staff, in defining working capital usually have the gross working capital in mind?

They went ahead to define net working capital as the difference between current assets and current liabilities while gross working capital is defined as the firm's investment in current assets, that is, cash and marketable securities, receivables and inventory.

Other writers have also defined the term, albeit not too differently from that of the authors above.

Archer and D' Ambrosio (1976) define working capital as decisions made by financial managers that endeavour to make an ultimate mix of types and how much quantity of current assets so that there is neither too little nor too much working capital.

While Campsey and Bringham (1989) see working capital as the firms' investment in short-term assets, Weston and Copeland (1994) defines the term by taking the practical approach by adopting usage found in the annual reports of companies where working capital is defined as the current assets minus current liabilities. Campsey and Bringham (1989) again take working capital as involving the decisions that relate to current assets including decisions the financial manager must make about its financing.

Alternatively as characterized by Puxty and Dodds (1971), working capital can be reviewed dynamically as equilibrium between the income-generating and the resource-purchasing activities of a company, in which case it is intimately connected with the cash conversion cycle. In other words to be effective in any business, working capital requires a clear specification of the objectives to be achieved. The two main objectives are to increase profitability and to ensure sufficient liquidity. Investment in current assets should only be made if an acceptable return is obtained.

The cash conversion cycle represents the length of time between the purchase of raw materials and the collection of accounts receivable generated in the sale of the final product.

The longer the cash conversion cycles, the greater will be the amount of investment required to be made in working capital.

Hunt et al (1972), on the other hand, see working capital as a process involving decisions as to how large commitment of funds should be maintained in the various assets categories. They point out that the issue of such investments should not be considered in isolation as they have an impact on the firm's overall need for funds.

Hite (1996) concludes the definition of working capital as a cost/benefit analysis. Once all the benefits and all the costs associated with a particular policy have been identified and quantified, if the benefits exceed the costs, the specific policy should be undertaken. If however the costs exceed the benefits the policy should not be undertaken.

Working capital management, therefore, "is the administration of the firm's current assets and the financing (especially current liabilities) needed to support current assets" Van Horne and Wachowicz (2008). Working capital management is important because in a distribution firm like Total Petroleum Limited (TPL), current assets, typically, account for more than half of its total assets. Moreover, the management of current assets is a continuous and daily affair that requires the full attention of the financial manager and all his/her staff, unlike dividend and capital structure decisions (Van Horne and Wachowicz, 2008).

2.1.1 The Cash Cycle

It's the movement of cash through the process of production, changing from one asset to the other (Sylaga, 1999). For instance, working capital can move from cash to inventories to receivables and then back to cash again.

The smoother and more rapid the flow, the less amount that is required and the more profit that is made than when there are interruptions in the flow (Sylaga, 1999) . In a company cash cycle, stock change from cash to materials.

It then changes from finished goods to sundry creditors. Stock should be maintained at levels appropriate for business turnover. The main objective therefore of working capital management is maintaining smooth and rapid flow of funds over the cash cycle and hence increasing working capital efficiency and profitability of the firm. The concept is also used in estimating the working capital needs for a firm.

2.1.2 The components of working capital

The major components of working capital are accounts receivable, inventories, cash and cash equivalents and accounts payable, Almeida et al (2004).

a. Current assets

Mathur (2003) explain that there are two major characteristics of current assets. Current assets have comparable shorter life lapse and current assets could be transferred into other forms of assets (and ultimately in cash) much more quickly. Keown et al (2006) describe that firms hold more current assets to keep larger cash and marketable securities in order to lower their risk of illiquidity. However, firms hold larger cash and marketable securities balances results a negative consequence. "Because investments in cash and marketable securities earn

relatively modest returns when compared with the firm's other investments, the firm that holds larger investments in these assets will reduce its overall rate of return".

b. Accounts receivable

Gentry et al (1990) describes that "receivables represent delay in the inflow of cash, which must be financed by the firm". In another word, if financing sales on credit is not necessary, firms could use these capitals in other purpose of business operation.

It means that receivables are an opportunities cost to the firms in economic sense. Shim & Siegl (2000) point out that accounts receivable management includes selecting the good credit customers and speeding up the collections from the customers. Firms have to know that holding accounts receivable occurs the opportunity cost, meanwhile, the funds is tied up in account receivable than benefiting by investing elsewhere.

e. Inventory

Mathur (2003) explains that inventories include raw materials, consumable stores and spares (working-in-process & finished goods). In general, a manufacturing firm has all three elements of inventories stands for about 25 to 30 percent of the total assets. Brealey et al (2004) describe that the firms have the raw materials and sell the finished products.

The period between the investment in inventories and date of sales is the period of inventory. Inventory is viewed as an asset and a liability. Smith (1980) explains with a case analysing that "the tightened inventory policy reduces necessary borrowing to a lower level than does faster collection of receivables or slower payments of current liabilities."

c. Current liability

Current liabilities have to compromise between the risk and the return. Current liabilities are one of the flexible financial resources of firms. Current liabilities could be used as short-term financing recourse to meet the firms' need.

However, due to the nature of short-term debt, it has to "be repaid or rolled over more often", so it increase the possibility that firms' financial condition may be distressed, because the funds may not be available as it is needed. Keown et al (2006).

d. Accounts payable

Brealey et al (2004) define the accounts payable that the firm purchase raw materials but does not pay their bills right after. The time interval is called the period of account payable.

Delaying payment is described as stretching the accounts payable. Accounts payable is one of source of short-term financing recourse. Shim & Siegl (2000) argue that long-term debt financing has the less liquidity risks than short-term debt financing since the long-term financing's payment period is longer, but this advantage also present the long-term financing to have higher expenditures than short-term financing due to the greater uncertainties of long- term financing. "Liquidity risk may be reduced by using the hedging approach to financing, in which assets are financed by liabilities with similar maturity".

e. Cash conversion cycle

Cash conversion cycle is an important measurement of the working capital management.

Gentry et al (1990) describe the cash conversion cycle measure the number of days while the funds are invested in inventories and accounts receivable minus the number of days that payment to suppliers is performed. Kim et al (1998) explain that the cash cycle is measured

as average inventory age plus the collecting period of accounts receivable minus the average period of accounts payment. Shin & Soenen (1998) define the cash conversion cycle as the continuing cash flow from suppliers to inventory to accounts receivable and back into cash is usually defined as the cash conversion cycle.

f. Cash

Cash is one of the most liquid and important components of working capital. Holding cash involves cost because the worth of cash held, after a year will be less than the value of cash as on today. Excess of cash balance should not be kept in business because cash is a non-earning asset.-Hence, a proper and judicious cash management is of utmost importance in business.

g. Marketable Securities

These securities also do not give much yield to the business because of two reasons, (i) Marketable securities act as a substitute for cash, (ii) These are used as temporary investments. These are held not for speculative balances, but only as a guard against possible shortage of bank credit, Gentry et al (1990).

2.2. Working capital policy

2.2.1. Balancing profitability and risk in working capital management

Working capital decisions have implications for the risk-return trade-off for the organization. Increasing the firm's net working capital reduces the risk that the firm will not be able to meet its liquidity needs, e.g., paying bills and suppliers.

In the same rate however, it reduces the profitability of the organization (Keown et al, 2005). Van Horne and Wachowicz (2008), asserted that the profitability assumption suggest that the firm maintains a low level of current assets and high proportion of current liabilities to total liabilities.

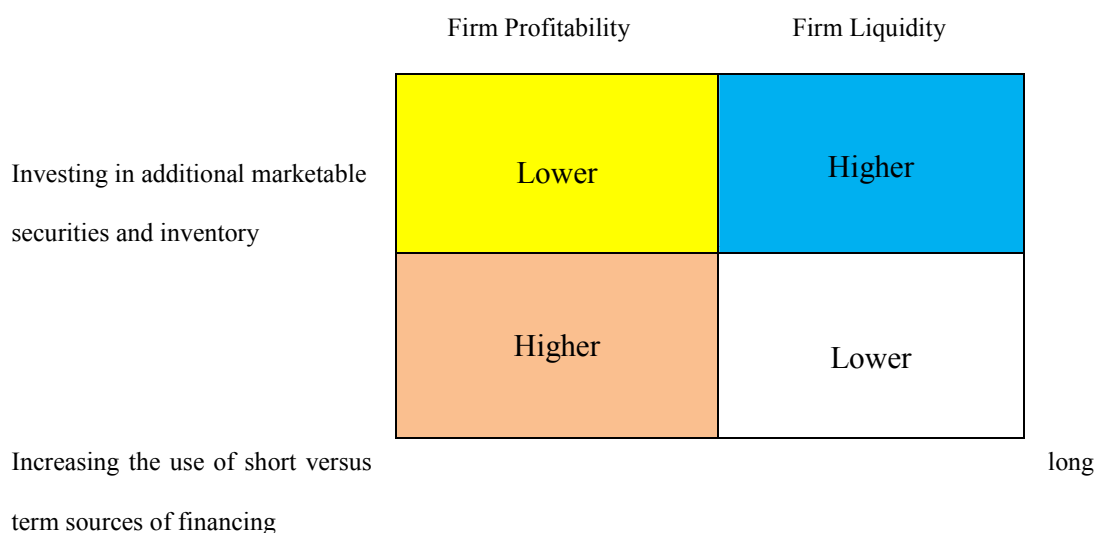
The risk involved here are however two fold and these are:

- Inability to meet cash obligations as they fall due and
- Inability to support the proper levels of sales (e.g. running out of inventory).

This observation illustrates the two most basic principles in finance which is:

- Profitability varies inversely with liquidity
- Profitability moves together with risk (Van Horne and Wachowicz, 2008).

Fig 2.1: The risk-return trade-off in managing a firm’s working capital



Source: Keown et al (2005)

As is illustrated in the Fig 2.1 above, as current assets are increased, the firm becomes very liquid but this is done at the expense of profitability. Invariably, therefore, as it increases its use of short term source of funding, its profitability goes up but liquidity is reduced.

To put it better Van Horne and Wachowicz (2008) said "...the explicit cost of short-term financing are less than those of intermediate and long-term financing, the greater the proportion of short-term debt to total debt, the higher is the profitability of the firm".

2.2.2. Other authors' elucidation of policies regarding working capital

There are two major policies involved in analyzing a firm's use of short-term financing which are recognized by the financial literature. With the uncertain and volatile environment in which financial managers operate, Keown et al (1996) have come out with two policy issues concerning analysis of a firm's use of short-term financing:

- How much short-financing should the firm use
- What specific sources of short-term financing should the firm select?

They approach the first question by the use of the "hedging " principle of working capital management. The second issue is addressed by considering the following three basic factors:

- The effective cost of credit.
- The availability of credit in the amount needed and for the period that financing is required.
- The influence of the use of a particular credit source on the cost and availability of other sources of financing.

The hedging principle involves the cash-flow generating characteristic of an asset with the maturity of the source of financing used to finance its acquisition.

Determination of the minimum required balances of each type of asset, according to Weston and Copeland (1994) bothers on aggressive, conservative or average working capital policy.

The notion of maturity matching in the hedging principle is most easily understood when the distinction between permanent and temporary investments in assets is thought of. Van Horne and Wachowicz (2008) treats Permanent and temporary working capital under Time in his classification of working capital.

Matching' or 'assets permanence' funding policy would be one which finance current assets with short-term funds while financing permanent current assets and fixed assets with long-term funds. The maturity of the funds in this approach roughly matches the maturity of different types of assets (Watson and Head, 1998). Asset needs of the firm not financed by spontaneous sources should be financed in accordance with the rule that permanent asset investments are financed with permanent sources and temporary investments are financed with temporary sources.

According to Weston and Copeland (1994) this policy is unsound because current assets include 'permanent' investments that increase as sales grow. In his judgment, the financing of the permanent portion of current assets should be with the permanent portion of short-term debt (the spontaneous portion provided by creditors and accruals) and by long-term debt and equity financing to the extent required.

Financial theorists have proposed a number of guidelines given the available working capital policy options, as a guide to management decisions.

The assumption is that marketable securities would never be held by business firms while concurrently incurring short-term debt.

Park and Gladson (1993) therefore suggest that if net asset requirements exceed long-term sources of financing, then short term bank borrowing is needed.

The task facing financial managers in decisions of working capital policies is the need to take into account the nature of the company business since different businesses will have different working capital requirements. “Working capital policies need to reflect the credit policies of company’s competitors, since it would be foolish to lose business because of an unfavourable comparison of trade terms” (Watson and Head, 1998).

Task facing financial managers in working capital decisions is the orientation towards the dual goals of liquidity and profitability of the firm, as discussed by Pass and Pike (1984). Keown et al (1996) also contributed that not that many of the working capital decisions made by financial managers involve risk-return trade-offs between liquidity and profitability.

“The principle is that businessmen will not take on additional risk unless they expect to be compensated with additional return. The more current assets held and the more long-term financing used, the less the risk of illiquidity and the lower the return. Decisions that tend to maximize profitability tend to lower the chance of adequate liquidity. On the other hand, focusing highly on liquidity will tend to reduce the profitability of the firm”.

Van Horne (1995), subsequently, introduces the concept of marginal analysis to determine the optimal level of liquidity. In other words, under imperfect conditions in the capital markets, there is cost to maintaining liquidity.

Accordingly, the cost of liquidity may be thought of as the differential in interest earned on the investment of funds in liquid assets and the cost of financing. The optimal level of liquidity, then, could be determined by marginal analysis. Why is its liquidity position a key factor in company's position? A company must be able to generate or have needs to continue as a going concern. Theoretical justification for maintaining liquidity depends on the focal point of management. Lenders, for example, are more particular about the liquid nature of inventory and receivables to allay fears of loans not being repaid in the event of insufficient cash.

The impact of working capital policies on profitability and liquidity goals of the firm, therefore, depends on the focus of management. The profitability in the sense of Watson and Head (1998) can be related to the goal of shareholder wealth maximization. From the various conceptual understanding and research work, it may be stated that working capital management should be regarded as an integral part of overall financial management and should be evaluated by considering its impact on the valuation of the firm as a whole.

Van Horne and Wachowicz (2008), summarises the above discussion into the table presented in **Table 2.1**.

Table 2.1: Short versus long term financing

Financing maturity		
Asset Maturity (or life)	Short Term	Long Term
Short Term (temporary)	1 Moderate Risk Profitability	2 Low Risk Profitability
Long Term (Permanent)	4 High Risk Profitability	3 Moderate Risk Profitability

Source: Van Horne and Wachowicz (2008)

The table above summarises the discussion of short versus long term financing as it relates to the trade-off between risk and profitability. It is evident in the table that maintaining a policy of short-term financing for short term or temporary assets will lead to moderate risk exposure to profitability while long-term financing with short-term assets will lead to low risk exposure.

Alternatively, a policy of financing permanent assets with short-term funds will lead to high risk exposure while the financing of permanent assets with long-term funds will lead to moderate risk exposure.

2.3. Components of working capital

There are four components that constitute working capital. These are cash and marketable securities, account receivables, inventory and current liabilities. The financial manager has different degrees of authority over the management of each of these components. Each component has been independently treated below.

2.3.1. Cash and marketable securities

After the organisation has determined overall level of current assets, some questions that still remains unanswered and which must be answered nonetheless is how much should be held in cash and how much in marketable securities. Cash management involves the efficient collection, disbursement and temporary investment of cash.

To manage cash and marketable securities efficiently, it is necessary for the organisation to receive on frequent basis the cash balance of each of the company's bank account, on cash disbursements, on the marketable security position of the firm, as well as changes in these positions (Van Horne and Wanchowicz, 2008)

2.3.1.1. Reasons for holding cash

According to the renowned economist Keynes (1936), there are three main reasons why businesses hold cash. These are;

- The transaction motive
- The precautionary motive
- The speculative motive

Other reason for keeping cash is satisfying bank compensating balance requirements (Cooley and Roden, 1991).

By transaction motive, Keynes (1936) meant keeping cash to effect payments such as purchases, wages, taxes and dividends that arise in the course of doing business. In other words, it enables the organisation conduct its daily business of making sales and purchasing raw materials and other transactions that requires the immediate disbursement of money to undertake. According to Adom (2001) however, perfect synchronisation pertaining to sales and purchases is impossible to achieve and hence there is the need to hold liquid assets for unforeseen transaction purposes.

The precautionary motive for holding cash enables the organisation “maintain a safety cushion or buffer to meet unexpected cash needs” Van Horne and Wachowicz (2008). It relates to the predictability of cash inflows and outflows. If inflows and outflows are predictable then less cash needs to be held for this purpose. The vice versa also applies.

The speculative motive pertains to the firm taking advantage of opportunities that occur at the spur of the moment. These are usually opportunities that have not been budgeted for or foreseen, for instance, the sudden fall in the prices of raw materials.

The compensating balance motive is associated with commercial banks requiring borrowers to leave a fraction of their borrowed funds on deposit at the bank, which the bank subsequently advances to other loan takers. According to Van Horne and Wachowicz (2008), companies do not usually keep cash ((or marketable securities (cash equivalent)) for speculative purposes. Cash and marketable securities are mostly held for transaction and precautionary purposes.

2.3.1.2. The Baumol Model

The Baumol (1952) model is the model used to determine the amount of cash that a firm should hold to minimize the total cost, that is, the transaction cost and opportunity cost associated with cash. The model assumes that cash is used uniformly throughout the period and therefore is not useful if a firm has seasonal needs for cash.

Using 'T' to represent the transaction cost associated with cash infusion, 'D' represents the annual demand for cash and 'K' represents the opportunity cost associated with holding cash, the amount of cash that a firm should obtain each time it gets a cash infusion 'Q' can be calculated using the formulae known as the Baumol Model

$$Q=\sqrt{2TD/K}$$

For firms that do not have cash flow occurring throughout the year, the Miller-Orr (1966) model is applicable.

This model assumes that cash flow is unpredictable throughout the year and it therefore allows the cash balances to vary between the **Lower Limit** which is the minimum cash balance the firm should hold and the maximum cash balance.

Whenever the cash balance drops below the lower limit, the firm gets a cash infusion to bring it to a level referred to in the model as the **Return Point**. Whether the cash balance exceeds the **Upper Limit**, the firm should invest any cash that exceeds the return.

According to Miller-Orr (1966), the Return and the Upper Limits are calculated with the following formulae.

$$\text{Return} = \text{Lower Limit} + \sqrt[3]{\frac{(0.75)TV}{K}}$$

$$\text{Upper Limit} = \text{Lower Limit} + \frac{3 \cdot \sqrt[3]{(0.75)TV}}{K}$$

Where;

T = Cost per transaction

K = Opportunity cost per day

V = Variance of daily cash flows

Lower Limit = Safety stock level of cash

According to Adom (2001), for many firms the total of transaction balances plus a safety stock constitutes the minimum cash balance and that is the point where the firm will have to borrow additional cash or sell part of its portfolio of marketable securities to bolster its position.

2.3.1.3. Marketable Securities Investment

These are short-term instruments or money market instruments that the company invests in. Their duration is usually one year or less. Investments here are, more often than not, are done in government's securities and high quality corporate debt issues.

In Ghana, these come in the form of Treasury Bills, Treasury Notes, Repurchase Agreements, Bankers Acceptance, Commercial Papers and Negotiable Certificate of Deposit. Stancill (1971) has observed that marketable securities (also called short-term investments in the company's books) are held for three main reasons.

Firstly, it acts as cash reserve for the company's cash account. This means that unless the firm's outflows are equal or less than the inflows, there will come a time when the cash balances of the organisation will fall short. When this happens, some of the marketable securities are quickly sold to build up cash. Securities are held so to cater for unforeseen or uncontrollable cash needs.

Secondly, securities are held to meet controllable or knowable outflows such as quarterly dividend, tax payments, loans falling due and interest payments. The organisation can prepare for this eventual payments but accumulating cash in the form of marketable securities which will be earning interest whiles the accumulating continues.

Thirdly, the company can invest in marketable securities when it has excess cash that it just wants to put away in the form of that investment. Since the cash does not have an immediate need, its more prudent to invest it than let it lie in a bank account or lie idle.

According to Van Horne and Wachowicz (2008) every firm must consider four variables before investing in marketable securities.

These are safety, marketability or liquidity, yield and maturity. In safety we look out for an investment that will not lead to the loss of the principal invested. In marketability, we look for the ability to sell all or a significant portion of the stock within a short notice. We look for the interest the funds can accrue in yield while in maturity; we look out for the life of the security, that is, the length of time before the principal amount of security falls due.

2.3.2. Account receivables

2.3.2.1. Definition and importance of account receivables

Broadly, account receivables (also called Receivables), refers to money owed to the company by its customers who have bought goods or services on credit (Van Horne and Wachowicz, 2008). Account receivables plays an important role in the working capital cycle, as the company's inability to collect them will result in shortfall of funds invest in inventory. Some industries, by the nature of their business, do more credit sales than others. It follows then that the more credit sales they do, the more funds they will have tied up in account receivables. For instance, large grocery stores do a lot of cash sales as compared with a construction firm. The grocery shop is this instance will have less accounts receivables than the construction firm. Obviously, therefore, some companies will have bigger account receivables than others. In a chart released by the US Treasury, companies were ranked in terms of the percentage of their working capital tied up in account receivables.

Table 1: Account Receivables as a Percentage of Total Assets for Major Industries

Industry	Accounts receivables relative to total assets
1. Total construction	29.16
2. General merchandising stores – retail	17.27
3. Automotive dealers and service stations – retail	17.21
4. Transportation	11.65
5. Building materials, garden equipment and supplies - retail	11.11
6. Agriculture, forestry and fishing	9.74
7. Air, rail and water transportation	6.09
8. Food stores	5.29
9. Hotels and other lodging places	4.76
10. All industries	19.26

Source: Internal Revenue Service, US Treasury Department, Statistics of Income, 1999, Corporate Income Tax Returns, 15-167

2.3.2.2. Determinants of the size of investment in account receivables

Size of investment in account receivables is determined by several factors. As explained by Keown et al (2001), the first of such influence is the percentage of credit sales to total credit sales. This is usually determined by the nature of the business. As discussed above, a grocery store will have lower account receivables than a construction firm. This is because while the latter does its business mainly on credit, the former does sales mainly on cash basis.

The second factor is the level of sales. The more sales the company does, the more likelihood that its accounts receivables will raise. The third determinant of the level of investment in account receivables relate to the credit and collection policies put in place. Factors that affect the credit and collection policies are the terms of sale, the type of customer and the collection efforts.

The level of accounts receivable is determined by the volume of credit sales and the average period between sales and collections. The average collection period (ACP), never the less, is dependent partly on economic conditions and partly on a set of credit policies variables (controllable factors), (Weston and Copeland, 1994).

2.3.2.3. Credit and collection analysis

The financial manager can vary the level of receivables to keep with the trade-off between profitability and risk. Weston and Brigham (1982), categorizes credit policy variables into four major policy variables including

- Credit standards
- Credit periods
- Discount given for early payments and
- The firm's collection policy

A number of writers have attempted to formulate decision models, which integrate several elements of working capital management.

Sortoris-Hill (1985), building on the earliest work of others like Kim and Atkins (1978), formulated a Net Present Value (NPV) cash flow approach to the analysis of alternative credit policies. Their decision model is based on calculating the net gain or loss resulting from a change in credit policy.

The company's optimal credit policy is the one which results in the largest NPV. Van Horne (1995) notes that if products and capital market are reasonably competitive, the credit and collection policies of one firm are not independent of those of other firms. He suggests that an optimal credit policy involves extending trade credit more liberally until the marginal profitability on additional sales equals the required return on the additional investment in receivables. To Weston and Brigham (1982), the marginal or credit quality cost includes;

- The default or bad debt losses
- Higher investigation and collection costs and
- Higher amounts and cost of capital tied up in receivables of less credit-worthy accounts.

Conceptually, it is suggested that customers are to be categorized for the purposes of approving or refusing credit to determine the profitability of default. Pierson et al (1993) came with the 'decision tree' technique as a useful aid in deciding whether to grant credit.

The three possible options in the approach are;

- Granting credit
- Refusing credit and
- Investigating the customer

The approach is undoubtedly appropriate for a company which relies to a large extent on information obtained from experience with its own customers. The credit standards influence the incidence of bad debts and delinquent accounts and so the decision made out of the three options is based on the lowest cost.

One area that received the attention of researchers and writers is the term of credit. Three distinct items that made the terms of sale are;

- The credit period
- The cash discount and the discount period and
- The type of credit instrument

The actual implementation of changes in credit policy requires that some very difficult judgments be made. According to Weston and Brigham (1982), the methodology involves some uncertainty and firms, therefore, move slowly towards optimal credit policies. The credit policy is fluid, dynamic and ever changing to reach a continually moving optimal target until the marginal profitability on additional sales equals the required return on the additional investment in receivables.

Once a credit policy is established, Hite (1996), suggest that firm monitors its accounts receivables in order to be certain that its customers are being monitored by the terms offered and that the terms offered and the benefits still far outweighs the costs. The finance manager can use the Average Collection Period (ACP) and the Aging Schedule (SP) as the two tools for monitoring.

The formula for calculating ACP is as follows;

$$\text{ACP} = \frac{\text{Account Receivable} \times \underline{365 \text{ days}}}{\text{Credit sales}}$$

The ACP is the average numbers of days it takes a firm to collect its credit sales. It is just one number and can look reasonable even when substantial percentages of the firm's customers are paying late. The AS on the other hand provides more information, as it categorises account by the number of days they have been in the books of the firm. In a survey done by Stone (1976), out of the companies which reported the use of some systematic procedures to project debtors, a great majority used either a pro-forma projection of Days Sales Outstanding (DSO) or some other ratio of debtors. The AS is arguably the most popular method in the control of debtors.

2.3.2.4. Credit losses and computer analysis

Kolb and Rodriques (1993) emphasize that some credit will simply not be repaid and it behoves on the credit manager to be prepared to confront these losses. Irrespective of how careful the credit managers are in screening customers, some customers will default in their obligations for varied reasons including changes in economic situation, increased competition, managerial incompetence or outright frauds.

Weston the Copeland (1984) also asserts that when interest rates are high and financing requirements are large, buyers may delay their payments beyond the normal credit period. The firm's investment in accounts receivables will consequently rise and increase its financing requirement. This inevitably highlights the important aspects of credit and collection policies in the broad spectrum of receivables management.

Van Horne and Wachowicz (2008) however, assert the whole issue of credit and its collection can be outsourced. When this is done, it frees core staff time to attend to the real business of the firm rather than spending time in debt collection. Weston and Brigham (1982) concluded that by nature, credit management lend itself to the use of computer controls because of this need for information analysis, storage and retrieval.

The effectiveness of a credit department is greatly enhanced by the computer's ability to generate periodic reports and analysis to monitor account performance and even to make basic credit decisions

2.3.3. Inventory management

Inventory is the link between the production and the sale of the product. Work-in-process is usually the amount of inventory manufacturing companies maintain. Other types of inventory are in-transit, raw materials and unsold finished products. Inventory in-transit is inventories between various stages of the production and storage process. Without this type of inventory, each stage of production would have to wait for the preceding stage to complete a unit. Raw materials enables the firm operate flexibly in its purchases.

Without it, the organisation will exist in a hand-to-mouth situation that is, buying raw materials strictly in keeping with its production schedules. Finished goods inventory allow the organisation a lot more flexibility in its production scheduling and marketing. It allows for the efficient servicing of customers' needs. These combine to give the company litheness in its operation (Van Horne and Wachowicz, 2008).

Inventories serve a number of purposes (Westona and Copeland, 1994). It helps meet anticipated demands, smooth production requirements, protect against stock-outs, take advantage of order cycles or periodic orders, hedge against price increases or take advantage of quantity discounts and permit operations since operations are not instantaneous. Westona and Copeland (1994) regard the major determinants of investment in stocks as the level of sales, the length and technical nature of the production processes and durability versus perishability of the end product. Organisations maintain inventory because sales levels, production times, demand and usage of end products are rarely predictable.

Inventory therefore serves as a buffer against uncertain and fluctuating market and keeps a supply of items available in case the items are needed.

Van Horne and Wachowicz (2008) reports that to prevent companies from holding large inventories, with its attendant cost, they are now adopting a control system called Just-In-Time (JIT). Keown et al (2001) added that the JIT is more than an inventory control system. It's also a production and management system. Keown et al (2001) added that this Japanese system which was developed by Tiichi Okno, a vice president of Toyota, runs in the opposite direction with what US companies use which is the Just-In-Case system.

The JIT system works with the primary objective of producing (or receiving) required "items at the exact time needed or just in time". Obviously, this reduces inventories and its attendant inventory-carrying cost. JIT also helps improve productivity, product quality and flexibility. Van Horne and Wachowicz (2008) reiterate that despite JIT, inventories should be increased as "long as the resulting savings exceed the total cost of holding the added inventory.

The balance finally reached depends on the estimates of actual savings, the cost of carrying additional inventory and the efficiency of inventory control”.

To achieve this balance however, there ought to be seamless coordination between the production, marketing and the finance departments.

Anderson et al (1991) asserts that two important questions that managers must answer in order to effectively manage inventories are as follows;

- When should the inventory for the item be replenished?
- How much should be ordered when the inventory for the item is replenished?

One key concept in the purchase of materials and storage of finished or in-transit products is the Economic Order Quantity (EOQ) model (Van Horne and Wachowicz, 2008). They defined it as the quantity of an inventory item to order so that total inventory costs are minimized over the firm’s planning period. Ordering here means either the purchase or production of an item.

According to Keown et al (2001), to aptly control the investment in inventory, management must solve the twin issue of the order quantity and the order point problems. Order quantity problem relates to “determining the optimal order size for an inventory item given its usage, carrying cost and ordering costs” whiles order point problem is “ determining how low inventory should be depleted before it is reordered”

The model assumes that;

$$\text{Total inventory cost} = \text{total carrying cost} + \text{total ordering cost.}$$

To calculate for the carrying cost therefore, it uses the formula below.

$$\begin{aligned}\text{Total carrying cost} &= (\text{average inventory}) (\text{carrying cost per unit}) \\ &= (Q/2) C\end{aligned}$$

Where; Q = the inventory order size in units

C = carrying cost per unit

To calculate for the ordering cost, the following formula is used

$$\begin{aligned}\text{Total ordering cost} &= (\text{number of orders}) (\text{order cost per order}) \\ &= (S/Q) O\end{aligned}$$

Where; S = total demand in units over the planning period

O = ordering cost per order

The equation for Total Inventory Cost then becomes;

$$\text{Total Inventory Cost} = (Q/2) C + (S/Q) O$$

By manipulating the equation, we get the ordering size Q*. It is the optimal value or the EOQ and it's given by the equation below;

$$Q^* = \sqrt{\left(\frac{2SO}{C}\right)}$$

The how-much-to-order decisions involves selecting an order quantity that draws a compromise between;

- Keeping small inventories and ordering frequently
- Keeping large inventories and ordering infrequently

While the first alternative results in undesirably high ordering costs, the latter results in high holding cost.

According to Anderson et al (1991), another model that is used, when the assumption that units are supplied to inventory at constant rate over several days or weeks instead of arriving in a shipment of size Q^* , as it is assumed in the EOQ model is the Material Requirement Planning and the Just-In-Time Inventory Philosophy models. In situations where the demand rate is not deterministic, the Material Requirement Planning and the Just-In-Time Inventory Philosophy models can be used. These models treat demand as probabilistic.

In conclusion, Anderson et al (1991) emphasise that inventory and inventory systems is of utmost economic importance for managers to be aware of and to make the best possible operating policy discussion for inventory system.

2.3.4. Current Liabilities

Firms can always borrow to support its working capital when they fall short. This is usually short term financing. According to Brealey and Myers (1993) there are several avenues of short-term financing. According to Keown et al (2001), short term financing can be categorised as to whether they are spontaneous or not. Account payables and accrued expenses are classified as spontaneous when they arise in the natural day-to-day operations of the company. This follows that as the company expands, so does this expense.

Trade liabilities and stretching payables are means companies use to finance current liabilities. Trade credit, according to Van Horne and Wachowicz (2001), is credit granted from one business or company to another. It is usually the deferment of payment on goods supplied. Stretching payable on the other hand is the postponement of payment of amount due to suppliers beyond the end of the net (credit) period.

It is also called leaning on the trade and dictates that the firm will put off paying its bills and suppliers and use that fund to meet its capital requirement in the meantime. When this financing option is chosen, however, the organisation loses any discount suppliers might offer. It must therefore ensure that the gain it is making from the differed payment is much more than the discount the suppliers offer. Other cost associated with this financing option is the charge of penalties or interest according to the industry the business operates in and the possible deterioration of credit rating which might affect the firm's ability to raise credit in the near future.

The firm can also get financing from negotiated (or external) sources. The two popular ones are secured and unsecured bank borrowing. Other sources of negotiated funding are commercial papers, letters of credit and bankers acceptance.

Unsecured bank borrowing is the situation where the firm borrows and repays when it wants so long as it does not exceed the credit limit. It need not pledge any asset as security for the loan. This kind of arrangement is called line of credit and companies that borrow at unsecured line of credit are generally obliged to maintain a compensating balance on deposits at the bank. Stretching payables dictate that the firm will put off paying its bills and suppliers and use that fund to meet its capital requirement in the meantime.

When this financing option is chosen, however, the organisation loses any discount supplies might offer. It must therefore ensure that the gain it is making from the differed payment is much more than the discount the suppliers offer.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This section describes how data for this study was collected and analyzed. To ensure the collection of reliable and accurate information or data for the research work, certain procedures and methods were adopted. This chapter deals with the methods used by the researchers in the collection of data for the purpose of this research work. It outlines the research design, sources of data collection, data collection procedure, sampling of the population and data analysis as well as the profile of Total Petroleum Ghana Limited (TPGL).

3.1. Methodology

3.1.1. Research population

The research population for this study was forty (40) comprising the entire management board of Total Petroleum Ghana Limited. Some of which include;

- The Board of Directors
- The Managing Director (MD)
- The General Manager (GM)
- The Finance & Accounts Manager
- The Distribution Manager
- The Logistics Manager

- The Supply Manager
- The Treasury Manager
- The Marketing Manager
- The Credit Control Manager
- The Retail Network Manager
- The Consumer Sales Manager

3.1.2. Sample size and sampling technique

This section looks at the sample size and the sampling techniques used in selecting the sample. In conducting a research, it is often impracticable or too expensive to collect data from all the potential units of analysis (population). A representative sample is therefore drawn from the population for the study. The respondents in this study were selected with the purposive sampling technique. The purposive sampling method was used in order to select people who were particularly informative, thus knowledgeable about the working capital management in the organisation. Twenty (20) respondents were selected as sample size for the study. Out of these, ten (10) were given questionnaires and the ten (10) were interviewed.

3.1.3. Sources of Data

The study made use of both primary and secondary data. Self-administered questionnaires were the main source of primary data used. Views were solicited directly from the senior managers of Total Petroleum Ghana Limited through these means. The secondary data was sourced from published materials, journals, magazines and other material that yielded information that was classified as scholarly. The internet was also very useful in this regard.

3.1.4. Methods of data collection

Questionnaires were prepared to guide the researchers in interviewing the officials of the organization. It was designed to satisfy the objectives of the study as well as address the issues raised in the problem statement. Principally, it addressed the issue of how effectively TPGL manages its working capital to enable it survive and make striding progress in the midst of fierce competition in the market in which they operate. As reiterated earlier, secondary data was gathered from annual reports, books, journals, and internet sources. These secondary data set the background for the study and guided the research.

3.1.5. Analysis of data and presentation of results

The data was analysed with the aid of the Statistical Package for Social Scientist (SPSS) software. With quantitative study like this one, the software focused on generating percentages, tables, pie chart and bar charts which gave a picturesque presentation to the generated data. The data was then transferred to Microsoft Word where it was edited and interpreted. It is the interpreted version that formed the bulk of chapter four.

3.2. Profile information on TPGL

3.2.1. History of TPGL

Headquartered in Total House, 95 Kojo Thompson Road, Adabraka, TPGL, an Oil Marketing Company, was incorporated in Ghana on December 31, 1951 as Sucony-Vacuum Oil Company (Gold Coast Limited). This was then a wholly owned subsidiary of Sucony-Vacuum Oil Limited of USA.

British Petroleum (BP) inherited the company from Sucony-Vacuum Oil Company and started its expansion project. The strong historical heritage of the company continued when in 1964 the subsidiary was inherited from BP Ghana, which was followed by a series of transitions from Elf Oil to Total Petroleum Ghana Limited.

TPGL, as we know it today, came into existence in November, 2006 following the merger between Mobil Oil Ghana Limited and Total Ghana Limited. With Total Petroleum's leadership position, came a huge recognition of the TOTAL brand amongst the Ghanaian investing and consuming public. The company is more visible and very well represented across the ten regions of Ghana, having inherited some of the best locations in major cities and towns. Total was provisionally listed on the Ghana Stock Exchange on July 19, 1991 and later had its official listing on September 18, 2006. It has a total of 50 million authorized shares and 13.9 million of these have been issued. Total Petroleum has a stated capital of GH¢50.05 million. The fourth largest publicly-traded integrated oil and gas company and a world-class chemicals manufacturer. Total operates in more than 130 countries and has 95,000 employees.

Total Petroleum remains at the forefront of several innovations. The company was the first Oil marketing company to introduce the electronic card payment system, TOMCARD, in Ghana. To further ensure that its processes guarantee top quality customer service, Total Petroleum remains the only oil marketing company in Ghana with an ISO quality management certification (ISO 9000:2001). Currently, TPLG has a wide network of 212 service stations in all the ten regions of Ghana. These stations are open 7 days a week for the convenience of its customers.

3.2.2. Products and services of TPGL

TPGL operates in the several sectors of the Ghanaian economy. These are the aviation, retail network, Mining and Exploration, marine, fleet and Transport, agriculture, manufacturing and Construction. The firm offers a wide range of petroleum products that conform to international standards to ensure that customers are assured of optimum performance. Specifically, they deal in Premium – Unleaded gasoline, Total Effimax – High octane gasoline/gasoil, Diesel, household kerosene, aviation fuel, bitumen, lubricants – industrial, motor and marine, insecticides and car care products

3.2.3. Corporate governance

TPGL ensures the maintenance of good corporate governance in accordance with Ghanaian corporate laws and provisions of the Securities and Exchange Commission (SEC). In the pursuit of this, the company currently has ten board members who govern the firm with Mr. Stanislas Mittelman as the Chairman and Jonathan Molapo as the Managing Director. KPMG is responsible for the auditing of the accounts of the company. Again, there is a vibrant Audit Department which was formed in November 2006 to see to the internal auditing of the company. They have an audit charter to guide them in their work.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0. Introduction

This chapter presents the results and analysis of the findings of the research. Various tools mentioned earlier in the previous chapter are used.

4.1 Demographic Information

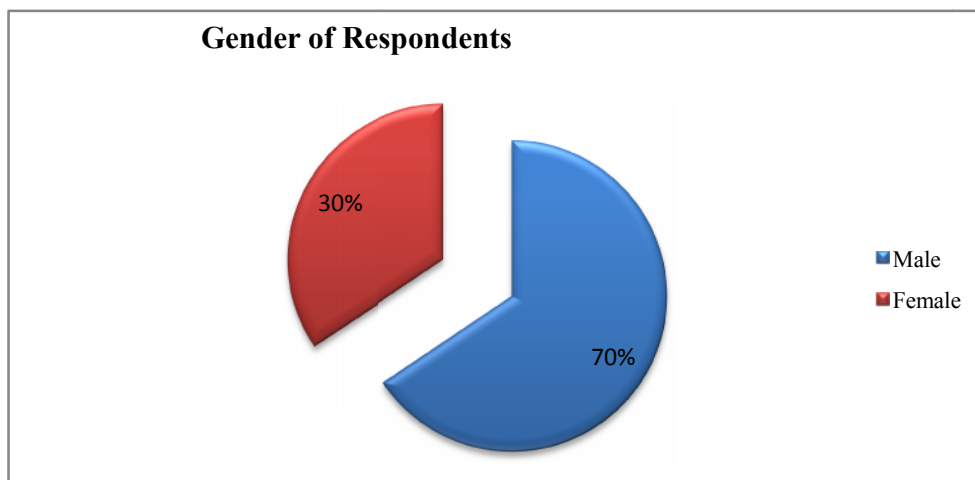
This section of the study presents the results and discussion on demographic characteristics of the respondents. The demographic characteristics of the respondents include gender distribution, age distribution, and level of education, marital status, and number of years of working experience.

Table 4.1.1: Gender of Respondents

Gender of Respondents		
Gender	No. of Respondents	Percentage
Male	14	70.0
Female	6	30.0
Total	20	100.0

Source: Field survey, 2013

Figure 4.1.1: Gender of Respondents



Source: Field survey, 2013

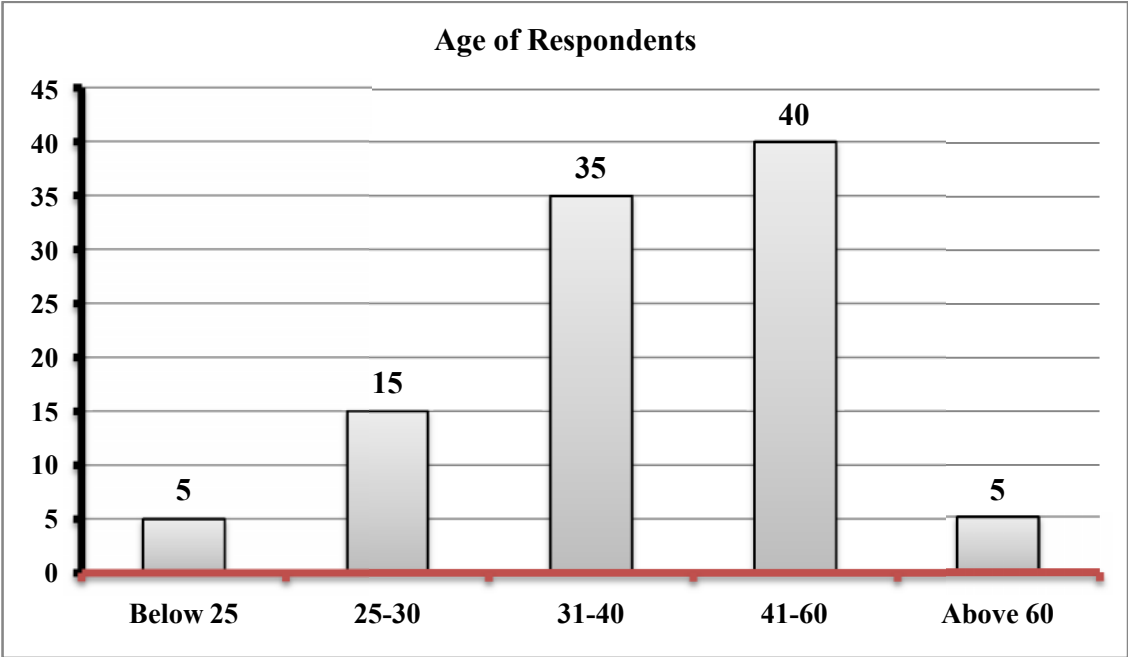
From table 4.1.1 and figure 4.1.1 above, the respondent base consisted of 14 male representing 70 % and 6 female representing 30%. Thus, men dominated the respondent base at TPGL. This confirms literature that men dominant management participation in Ghana and Africa at large, especially at the highest management level.

Table 4.1.2: Age of Respondents

Age	Frequency	Percent
Below 25	1	5.0
25-30	3	15.0
31-40	7	35.0
41-60	8	40.0
Above 60	1	5.0
Total	20	100

Source: Field survey, 2013

Figure 4.1.2: Age of Respondents



Source: Field survey, 2013

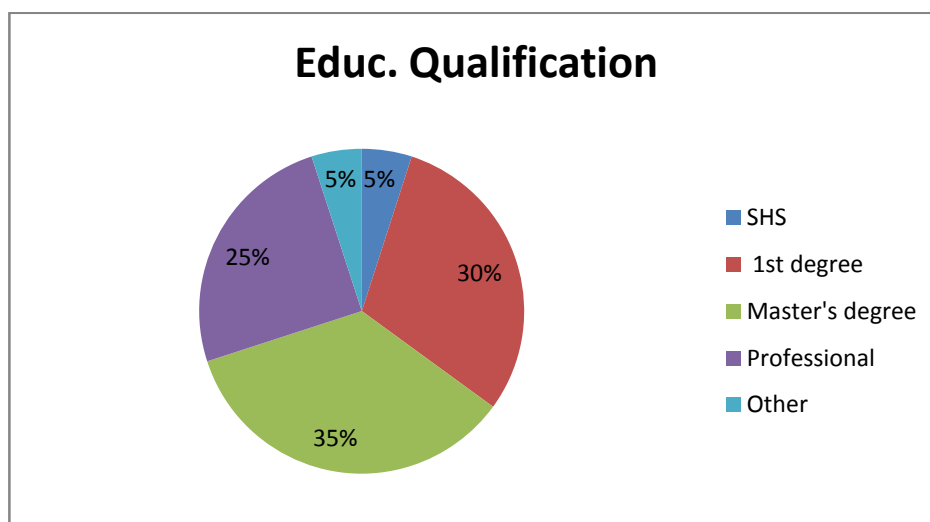
From the results, of the total 20 respondents, 8 of them representing 40% are aged between 41-60 years while 3 and 7 respondents are aged between 25-30 and 31-40 years respectively. Also 1 respondent representing 5% are aged both above 60 years and below 25 years respectively. Hence the respondents comprising mostly of management personnel are dominated by adult. This is not surprising as literature postulate that management position in Ghana is dominated mostly by adults.

Table 4.1.3: Educational Background of respondents

Educational Background		
Educational Background	No. of Respondents	Percentage
SHS/O Level	1	5.0
Graduate (1st degree)	6	30.0
Master's degree	7	35.0
Professional qualification	5	25.0
Others	1	5.0
Total	20	100.0

Source: Field survey, 2013

Figure 4.1.3: Educational Background of respondents



Source: Field survey, 2013

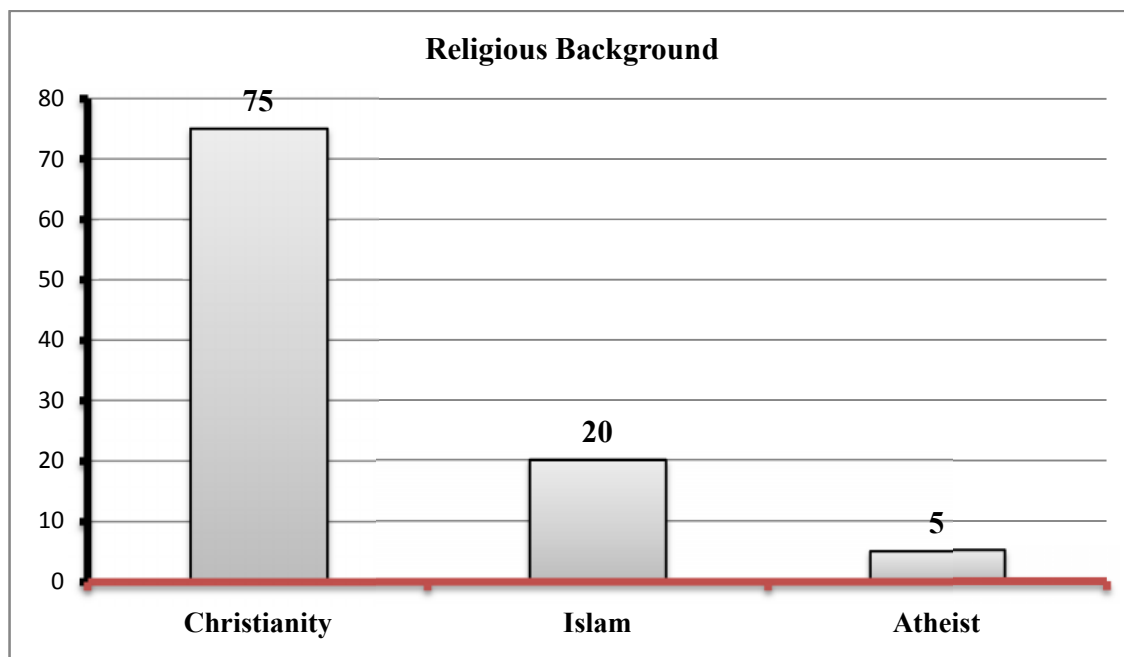
From table 4.1.3 and figure 4.1.3, of the total 20 respondents, 7 representing 35% are master's degree holders, while 6 and 5 respondents are first degree and professional qualification holders respectively. These professional qualifications included; Association of Certified Chartered Accountant (ACCA, UK), Association of Certified Chartered Economist (ACCE, USA), Chartered Institute of Management Accountant (CIMA, UK), Institute of Chartered Accountants (ICA, Ghana) as well as Chartered Institute of Marketing (CIM, UK). Two (2) respondents also reported other educational background such as O. Level, A. Level as well as Diploma and Certificate A. Management as a task requires great competency and experience, hence the greater percentage (35%) of the respondents having a master's degree or equivalent.

Table 4.1.4: Religious Background of respondents

Religious Background		
Religion	No. of Respondents	Percentage
Christianity	15	75.0
Islam	4	20.0
Atheist	1	5.0
Total	20	100.0

Source: Field survey, 2013

Figure 4.1.4: Religious Background of Respondents



Source: Field survey, 2013

In all Christians dominated the respondent base with 15 people representing 75%. This is followed by Muslims with 4 respondents representing 20 while there was only 1 respondent who is Atheist.

Table 4.1.5: Cross Tabulation between Sex and Marital status

Marital Status	Sex		
	Male	Female	Total
Single	2	1	3
Married	9	4	13
Divorced	1	0	1
Widowed	1	1	2
Separated	1	0	1
Total	14	6	20

Source: Field survey, 2013

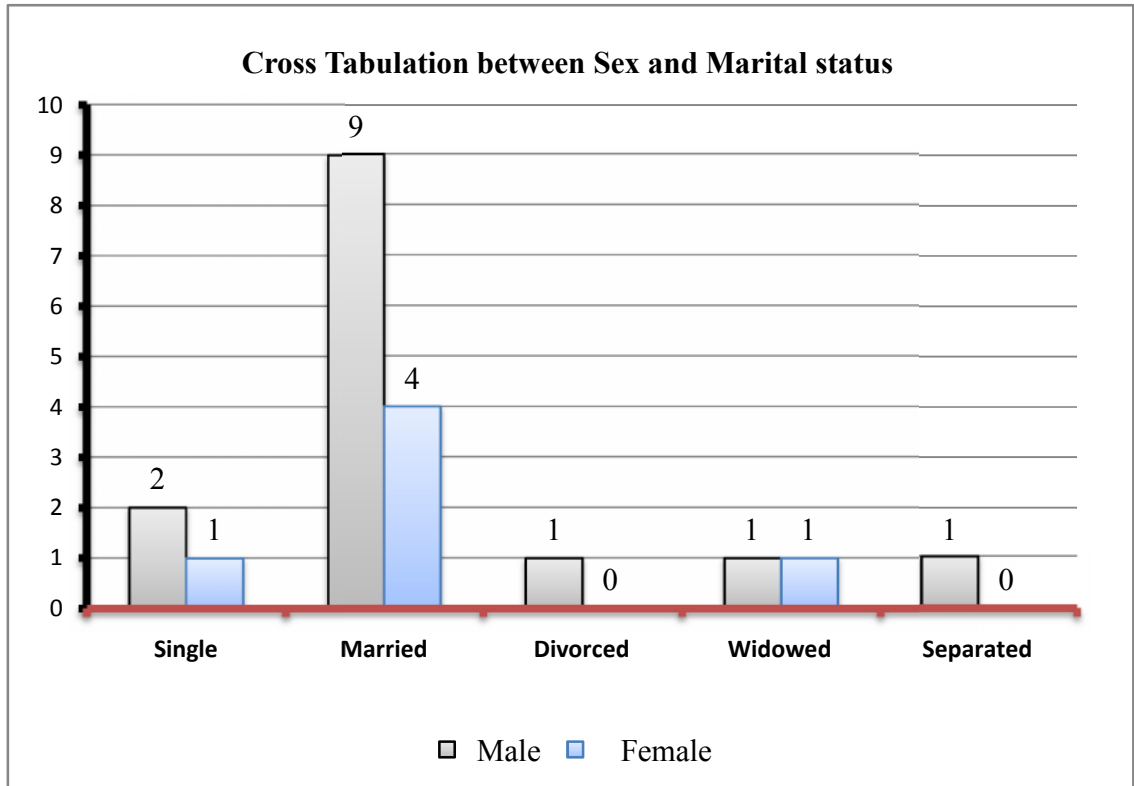


Table 4.1.5 shows the Sex and Marital status cross-tabulation of respondents. Out of 3 respondents who were single, there were 2 males and 1 female whereas of the 13 married respondents, there were 9 males and 4 females. For the divorced, it was only 1 who was a male. In the same vein, 1 male was separated but no female was separated while 2 respondents are widowed. From the results, the total number of married people stands high among the respondents even though the number of divorcees and separated couples is alarming.

4.2. Company performance

Table 4.2.1: Financial performance of TPGL from 2005 to 2009

Year \ Item	2005 (GH¢)	2006 (GH¢)	2007(GH¢)	2008 (GH¢)	2009 (GH¢)
Turnover	122,282,000	177,833,000	404,390,000	566,514,000	542,439,000
Gross Profit/(Loss)	9,914,800	15,004,300	30,154,000	32,413,000	40,046,000
Net Profit/(Loss)	1,367,300	3,832,500	8,797,000	6,220,000	13,166,000
Interest Expenses	1,005,100	823,100	2,656,000	4,065,000	2,080,000
Earnings per share	0.0289	0.6114	0.6291	0.4448	0.9415
Net asset per share	1.1137	3.9527	3.7714	3.9745	4.3198

Source: TPGL Annual reports from 2005 to 2009

TPGL is financially strong from all indications. This is particularly so from 2006 onwards, when the merger was effected. As is evident in Table 4.2.1 and 4.2.2, turnover, gross profit and net profit doubled after the merger. Specifically, net profit grew by 862.9% from 2005 to 2009.

Table 4.2.2: Analysis of the financial performance of TPGL from 2005 to 2009

Year	2005 (GH¢)	2006 (GH¢)	2007(GH¢)	2008 (GH¢)	2009 (GH¢)
Item					
Turnover	122,282,000	177,833,000	404,390,000	566,514,000	542,439,000
Difference in figures	420,157,000	364,606,000	138,049,000	-24,075,000	0
Percentage difference	343.6	205.0	34.1	-4.2	0.0
Gross Profit/(Loss)	9,914,800	15,004,300	30,154,000	32,413,000	40,046,000
Difference in figures	30,131,200	25,041,700	9,892,000	7,633,000	0
Percentage difference	303.9	166.9	32.8	23.5	0.0
Net Profit/(Loss)	1,367,300	3,832,500	8,797,000	6,220,000	13,166,000
Difference in figures	11,798,700	9,333,500	4,369,000	6,946,000	0
Percentage difference	862.9	243.5	49.7	111.7	0.0
Interest Expenses	1,005,100	823,100	2,656,000	4,065,000	2,080,000
Difference in figures	1,074,900	1,256,900	-576,000	-1,985,000	0
Percentage difference	106.9	152.7	-21.7	-48.8	0.0
Earnings per share	0.0289	0.6114	0.6291	0.4448	0.9415
Difference in figures	0.9126	0.3301	0.3124	0.4967	0
Percentage difference	3157.8	54.0	49.7	111.7	0.0
Net asset per share	1.1137	3.9527	3.7714	3.9745	4.3198
Difference in figures	3.206	0.367	0.548	0.345	
Percentage difference	287.9	9.3	14.5	8.7	0.0

Source: TPGL Annual reports from 2005 to 2009

NB: The differences in figures were arrived at by deducting the years' figure from that of the most current year, in this case 2009. E.g. $2009 - 2005 = ?$

The percentage difference figures were arrived at by dividing the particular year we are considering and multiplying the results by 100. E.g., Difference between gross sales between 2009 and 2005 divided by gross sales in 2005 multiplied by hundred.

Most impressively, between 2008 and 2009, net profit was doubled as it grew by 111.7%. This growth is quite phenomenal but when checked against the background that the company has ready market for its products, it becomes absolutely understandable. It was also after this time that the unfavourable overdraft position of the firm started turning for the better, especially when compared to the increase in turnover. In the 2009 financial year, the company interest payment was reduced considerable.

This could be attributable to many factors, among who is the stretching of payables due to suppliers and bills. Also worth noting was that the earning per share went up 3,157.8% while net asset per share also went up by 287.9% between 2005 and 2009. This is absolutely fantastic considering that this was achieved within the space of four years. This goes to support the premise that the company grew considerable because among other things, they drew on their synergies.

4.3. Cash and Marketable Securities Management

From the results, Total Petroleum Ghana Limited (TPGL) is into retailing, that is, the retailing of fuel and associated automobile products. It is evident from the results that TPGL has a cash management policy as it was reported by all respondents; and it involves cash budgeting and fund flow statement. The treasury manager further explained that the company does not just spend but ensure that “cash is deployed at areas that yield the best returns.

We ensure we budget and stick close to the budget as possible”. He was however hesitant to add figures to his assertion, claiming they are company classified information.

The treasury manager further added they do not follow any specific model in splitting cash holdings and investing in marketable securities. Nonetheless, he explained that they do usually invest a portion of their cash in marketable securities since liquidity in their industry is such a great priority. He added that demand in their industry far outstrip supply and hence suppliers should always be paid at the agreed upon time to have a good credit rating to ensure continuous supply.

The credit control, the distribution and the consumer sales managers confirmed this observation by the treasury manager as well. The credit control manager however, added that as a company they just cannot buy products and sell all the time, and hence the managing director in consultation with top managers are putting together a framework to start investing in marketable and other securities according to a specific order. When the researchers asked if they do not have any marketable securities at all, he answered that they do have some treasury bills and notes, call deposits, stock market investments among others. He also declined to produce figures to back this assertion.

The Finance Managers further conceded that they do not have any problem in the management of the funds of the company, adding that they deploy cash to the best investment. Thus, they will build shareholders wealth and grow the company without compromising liquidity. The researchers specifically asked the treasury manager how he manages profitability and liquidity. He answered that as per their working capital policy, and also to ensure a good risk-return trade off to meet liquidity needs, they invest a portion of their profit in call deposit, especially day-to-day call, where they can disinvest in a moment's notice. "Treasury bills and notes are invested in when we have the luxury of time with our cash" he added.

4.4. Account Receivable Management

On how the company collect their collectibles, respondents confirmed that it does not take them so long to collect collectibles. The distribution and the logistics manager, the supply manager, the credit control manager, the retail network manager and the consumer sales manager agreed that because the final consumers pay cash for their products, it does not take long for the fuel stations to settle their indebtedness to them. When asked for specifics, the treasury manager said that they have several kinds of fuel stations where they sell their products and hence different arrangements as far as payment is concerned. He said TPGL has the following arrangements;

- The company owned, company operated stations, where the operators buy the products on cash basis;
- Company owned, dealer operated which also buy in cash and the businessmen sell for commission;

- Dealer owned, dealer operated where some credit is given. This credit is usually for one week. Even with the credit, about half of the amount delivered must be paid upfront before delivery is done; and
- Dealer owned, company operated where products are bought for cash.

To explore this area some more, the researchers asked for the percentage sales in credit and cash. From the treasury manager's response, TPGL mostly supply on cash basis. Conclusively, therefore, they do about 20% credit sales and 80% cash sales. This credit however goes for only a maximum of seven days after which it should be settled in full to ensure continuous supply of the product.

“When is account receivable considered delinquent?” When this question was posed to the respondents, the supply chain, the credit control, distribution and treasury manager answered almost exactly and coincidentally. They were unanimously in their response that, when indebtedness is not repaid within three weeks, it is considered delinquent. They however added that if payment is not effected after the mandatory one week period, they go through various stages of classifying the client before they are considered delinquent after three weeks. When this happens, according to the respondents, the customer is blacklisted and supply to them suspended till the debt is repaid. However, if the debt is not repaid within one month, the case is turned over to the credit control department who will institute legal proceedings to get the debt repaid.

According to the credit control manager, rarely do they resort to the services of collection agencies. Also, rarely do they have to drag somebody before the law courts to effect payment.

4.5. Inventory Management

The demand for the products of TPGL is stable and not seasonal. According to respondents, this is so because vehicles and industrial energy needs are daily. When asked, how often they order for products, the distribution manager and the retail network manager said they order for products three weeks. In average, therefore, products are ordered every three weeks to a month.

They explained that though that is the time frame they go by, it does not mean their suppliers always go with this timing. “Sometimes when the suppliers do not get enough fuel to lift, they either do not get the product on time or they do not get the quantity they wanted to buy” the distribution manager explained. He added that they usually take products from Tema Oil Refinery (TOR), Chase Petroleum, and Sage Petroleum among others. They added that because of the incessant demand by other competitors, they have to place their order well in advance to ensure that they get the quantity they want supplied.

On how-much-to-order decisions, the respondents said they order large quantities and hence, their holding cost is quite high but inventory is not kept for so long. The researchers asked the respondents if they take stock with the motive of hedging against price increases; the supply manager replied in the affirmative. He explained that the fuel price in the world market is forever changing and it makes business sense to buy as much as possible when the product is available so that the company benefits when prices do go up.

He further explained that they do not lose in any way since the product is not perishable and there is always demand for it anyway. He also said that they buy in bulk to also prevent stock-outs and as said earlier, to meet anticipated demands.

4.6. Credit liability management

According to the finance and accounts manager, the company has avenues of accessing short-term financing. This is usually in the form of overdraft facilities and credit lines from their bankers. According to them, two years ago, that is before the term of the current managing director of the firm, their overdraft position was in the negative and they were really struggling with the payment of their facilities, partly due to the high interest rates the banks charge for such facilities. When the new managing director assumed office, his connections, coupled with the coming of other suppliers in the system, they were able to stretch their payables.

This enabled them settle what they owed the banks in overdraft to the extent that now, their overdraft position is in the positive. He reiterated however that, they stretch the payables to such an extent that it does not negatively affect their credit rating and hence their trade liabilities. They therefore ensure they lift fuel from suppliers who give them the maximum days payables while at the same time, giving them the best price on the market.

To the question of whether they use negotiated financing, the treasury manager said that an option such as bank borrowing is used. Others such as commercial papers, letters of credit and bankers acceptance are rarely used. The finance and accounts manager said that they ensure that short-term finances are used to finance short-term assets and long-term for long-term assets to enable them benefit maximally from the funds secured.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter presents the summary of the findings made in the study, the conclusions and recommendation made from the study. The findings sub-section will look at the summary findings in the light of the literatures or the research results.

5.2. Summary of Findings

5.2.1. Cash and Marketable Securities Management

From the result, it was established that TPGL has a working capital and cash management policies in place. The cash management policy involves cash budgeting and fund flow statement and this is stuck to as much as practicable. The company do split funds into cash holdings and investment in marketable securities but do not follow any of the models.

This means that TPGL neither goes by the Baumol nor the Miller-Orr model explicitly. Implicitly, however, it was realised that the company follows Baumol model to determine the amount of cash the firm should hold to minimize the total transactional cost. This model is appropriate for the organisation because they do not have seasonal cash needs but cash is used uniformly throughout the year.

Also, investment in marketable securities is mainly done when there are excess funds that will not be needed within a certain time frame. The avenues employed in these investments involve call deposit and Treasury bill or notes.

The company therefore holds cash for mainly transaction motives (Keynes, 1936). Thus, TPGL holds cash for precautionary motive but not so much as to satisfy its transactions. Marketable securities, though few as reported are held to acts as “cash reserve for the company’s cash account”.

5.2.2. Account Receivable Management

From the results, it takes approximately three weeks to collect collectibles at TPGL while it does more cash sales than credit sales. The company usually sell products to fuel stations that are either operated by them or operated by other dealers. In either arrangement, they ensure that products are paid for upfront or some form of short credit, usually a week, is granted. Thus, TPGL and downstream petroleum companies in general have little funds tied up in account receivables, since they sell their products usually on cash basis while increasing their account receivables.

This eliminates the need to use the ACP or the SP model in calculating its customer’s creditworthiness. Furthermore, account receivable is considered delinquent after three weeks where delinquent clients are usually blacklisted and supply to them is suspended until payment due TPGL is cleared. Credit control at TPGL is worthwhile because of the ready market for its products coupled with high interest rates/financing requirements.

5.2.3. Inventory Management

From the results, Total has a stable demand for its products; prompting frequent and large quantity orders. Also, the company keeps unsold finished products as its inventory since it does not manufacture the product locally.

They only deal with in-transit inventory locally when they order products from TOR and/or Chase Petroleum with tankers. The company also order stock with the motive of hedging against price increases and prevent situations of stock-outs.

Since petroleum products are non-perishable, TPGL orders large quantities to hedge against price increases and stock-outs.

5.2.4. Current Liabilities Management

TPGL has means and access to short-term financing. From the result, negotiated financing; commercial papers, letters of credit and bankers' acceptance are a gist of these means even though overdraft and trade credit lines are the common place used in past to finance current assets until they started stretching payables in its trade liability management. Currently, TPGL has moved from its previous red position in overdraft; and to enable them benefit from their trade liabilities it lift fuel from suppliers that offer maximum days to pay while offering good too. To this end, credit rating is not affected since it manages to get the credit for a time frame within which it is able to effect payment.

The company also uses negotiated financing. The means that is used more often is bank borrowing. Other means that are rarely used include commercial papers, letters of credit and bankers' acceptance.

5.3. Conclusion

It is therefore safe to conclude in this study that efficient working capital management of TPGL will lead to reduced liquidity risks, higher profitability and sustainability of the firm.

5.4. Recommendations

In the light of the findings made and conclusions reached, it is recommended that:

- Although, the company uses trade credits a lot which do not carry any charges. However, it should also consider other sources of debt financing such as loans, overdraft etc in order to reduce its tax payable. This is because interests charged on these forms of financing are tax deductible.
- TPGL should order inventory till it reaches its optimal limit. This is because their product is in demand and hence need not worry whether the product will sell or not or will go bad or not. Such larger orders will put them in a safe position when their suppliers are not able to get their products on time and would reduce cost of frequent ordering of inventory.
- TPGL, despite its experience in its working capital management should also try to apply some academic models to achieve maximum efficiency in its working capital management.

- The most fundamental considerations, which TPGL need to take into account when making the short-term investment decision are security, liquidity and return. Security - meaning that the investment asset should provide low risk; liquidity-this is where the easiness of transferring the investment into cash is taken into account and return – the investment should also bring appropriate return given the other factors.

For future researchers, the researchers will like to recommend that they look into how the other upstream companies like TOR, Sage Petroleum and Chase Petroleum, among other suppliers also manage their working capital.

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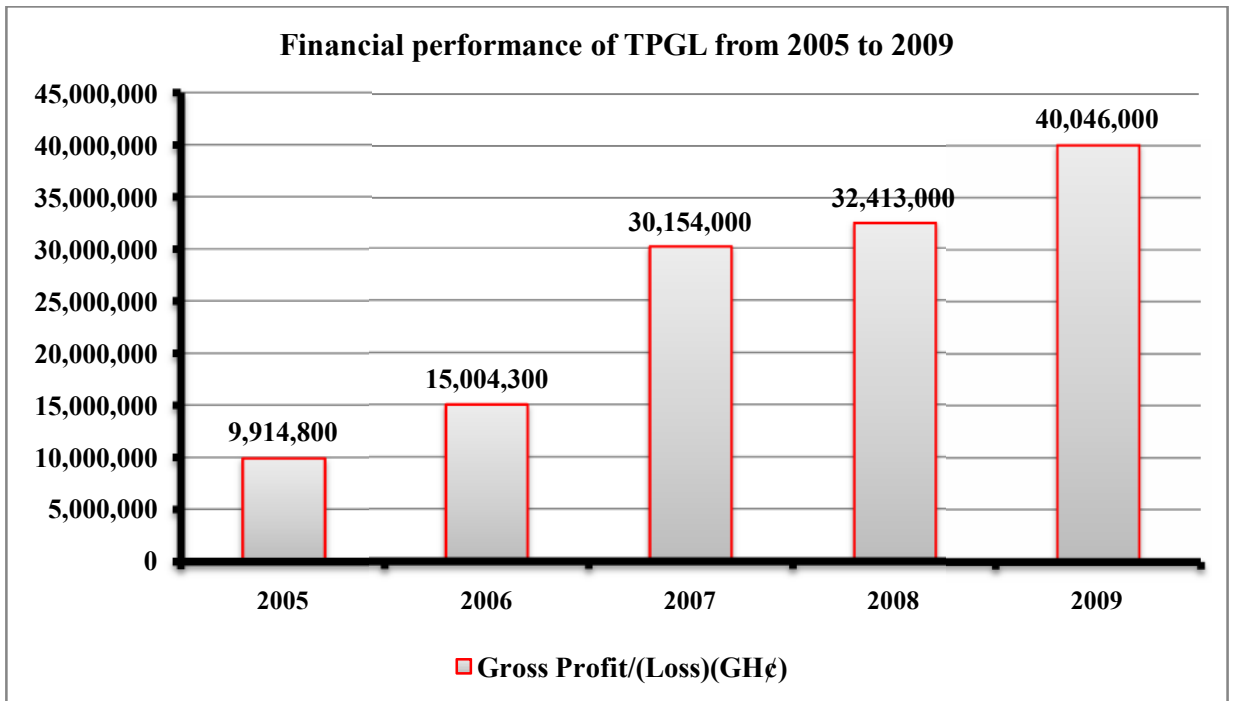
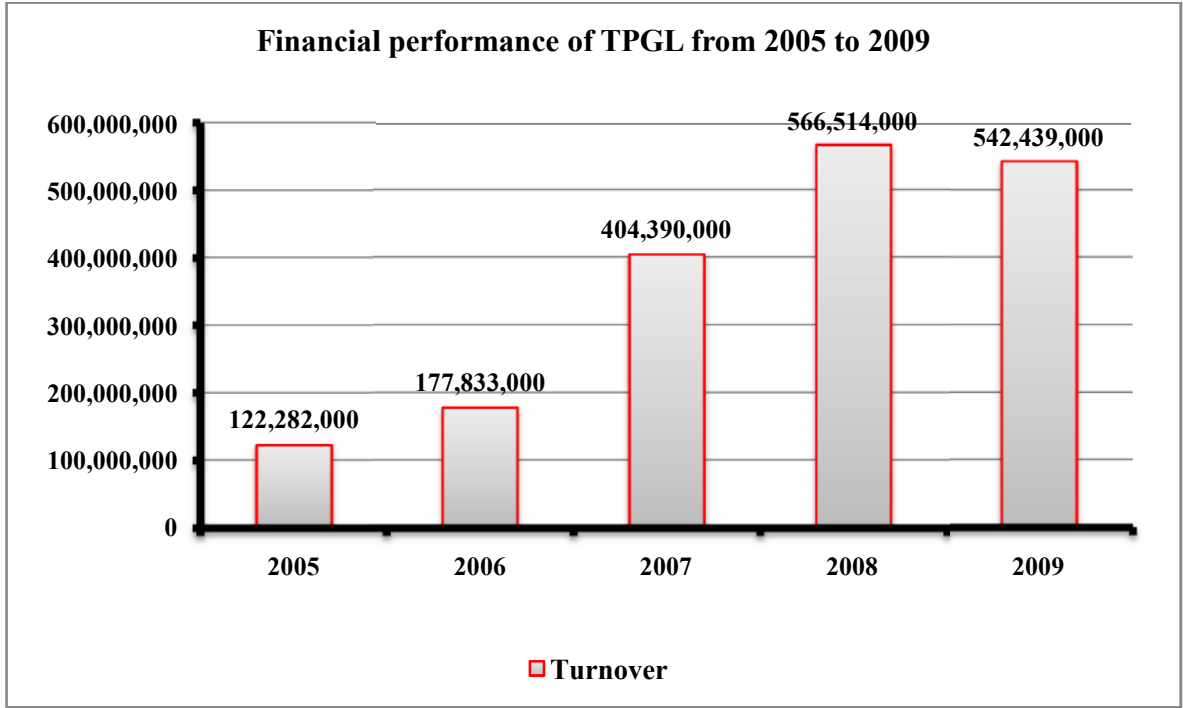
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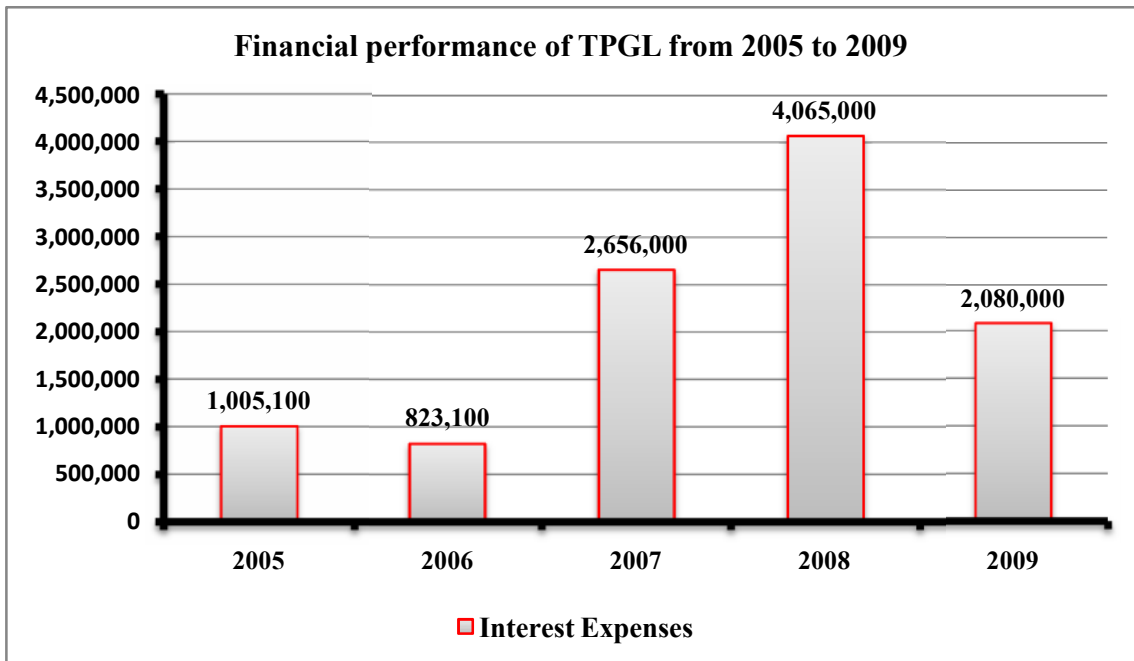
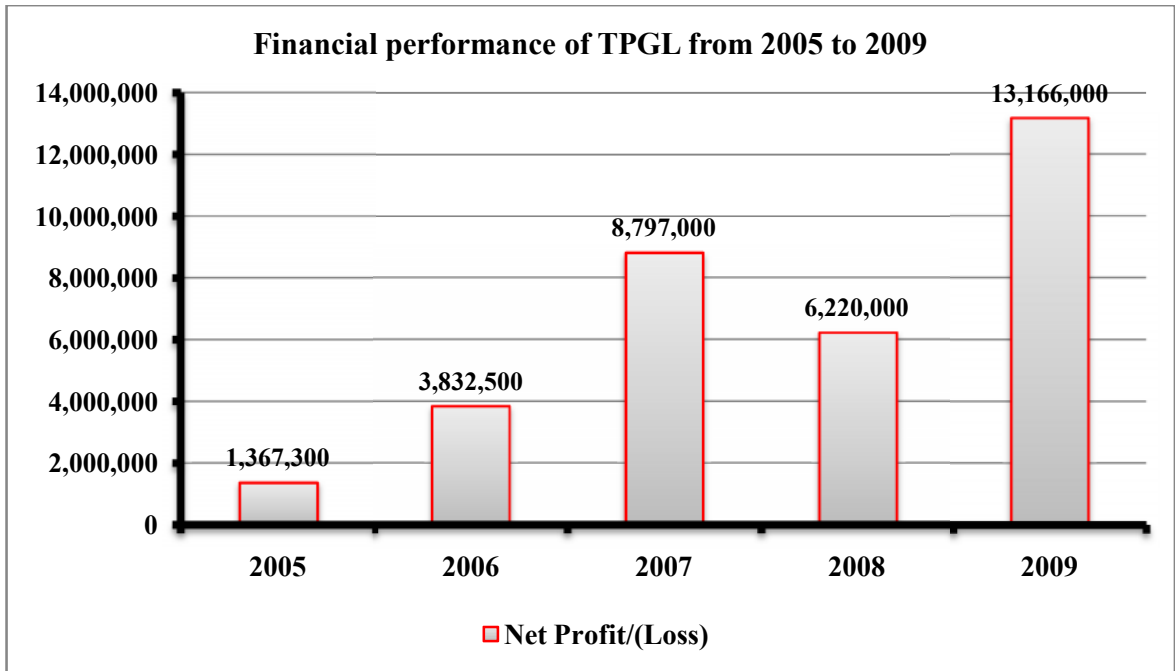
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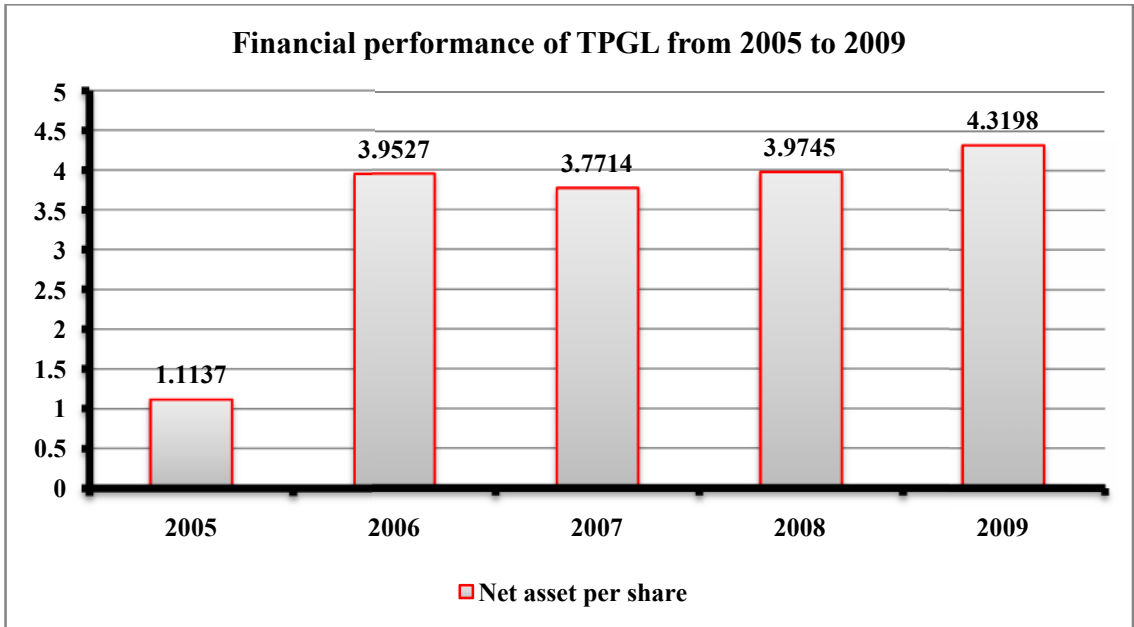
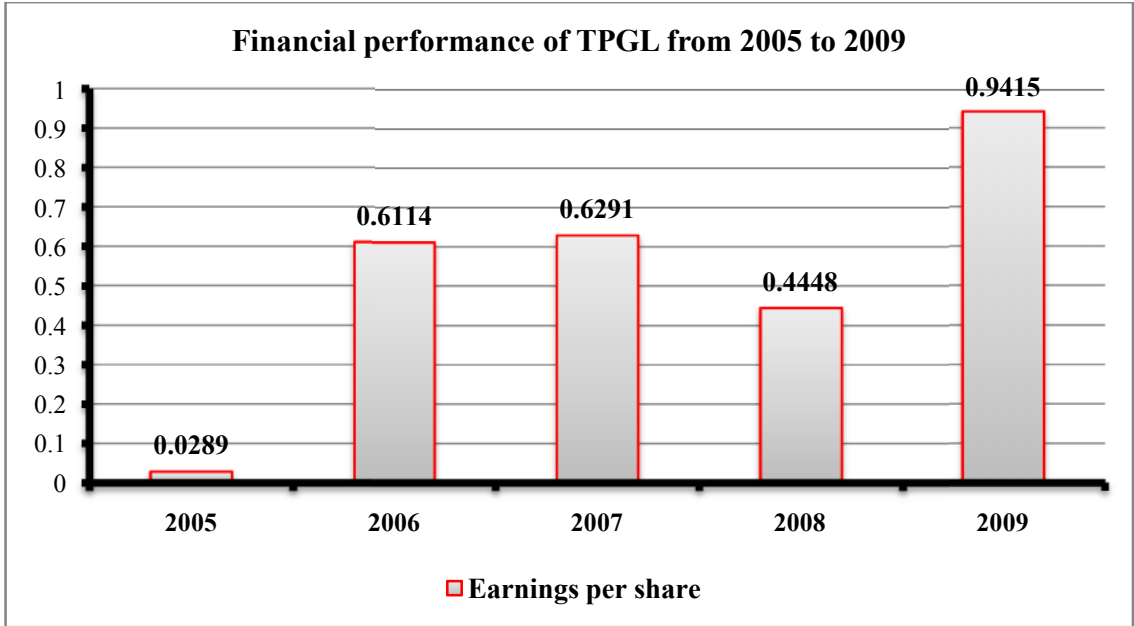
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APPENDIX A

Analysis on Financial performance of TPGL from 2005 to 2009







APPENDIX B
QUESTIONNAIRE

The researchers are Bachelor of Business Administration student in Christian Service University College who is conducting a research into the ‘Working Capital Management and its effects on funding strategies in Ghana: the case study of Total Petroleum (Ghana) Ltd’.

The researchers will be grateful if you will set aside some time of your busy schedules to answer the following questions. The answers provided will be used for academic purposes only and will not appear in any publication with the intent of victimizing you or your organization. You can kindly answer by ticking or writing where necessary.

Section A: Demographic Information

1. Gender: Male Female
2. Age: Below 25 25-30 31-40 41-60 Above 60
3. Marital status: Single Married Divorced Widowed Separated
4. Level of education: Master’s Degree 1st Degree Professional qualification
SHS Other specify.....
5. Religion: Christian Islam Traditionalist Artiest

Section II: Working Capital Management

1. What is your company's line of business

a. Manufacturing

b. Retailing

c. Financial

d. Communication

e. Others (please specify).....

2. Does your company have a cash management policy?

a. Yes b. No c. Do not know

3. If No, how do you determine your future cash needs?

.....
.....

4. If Yes, which of the techniques do you employ? Tick as many as applicable.

a. Cash budget

b. Fund flow statement

c. Proforma financial statement

d. Percent of sale method

e. Regression analysis

f. Others (please specify).....

5. Do you a criterion as to how liquid assets should be split between actual cash holdings and marketable securities?

- a. Yes []
- b. No []
- c. Do not know []

6. If yes, do they include the following models

- a. Inventory model approach []
- b. Miller-Orr approach []
- c. Others (please specify).....

7. If No, what guidelines do you follow in deciding how much excess fund to invest in marketable securities or hold as cash balances

.....

.....

.....

8. Do you have any criteria for deciding which marketable securities to invest in?

- a. Yes []
- b. No []
- c. Do not know []

9. What do you do with your surplus or idle cash balances? (Tick as many as applicable)

- a. Buy treasury bills []
- b. Invest in certificate of deposit []
- c. Invest in commercial papers []
- d. Put it on call deposit []

- e. Buy foreign exchange
- f. Hold it in cash till it's needed
- g. Others (please specify).....

10. Why do you put your funds in any of the investments specified above? (tick as many as applicable)

- a. For safe keeping
- b. To earn interest
- c. That is the custom
- d. Others (please specify).....

11. Do you have any specific amount of cash balances you usually hold at any given time?

- a. Yes
- b. No
- c. Do not know

12. Do you employ any forecasting tools in determining your cash needs and therefore your cash balances?

- a. Yes
- b. No
- c. Do not know

13. Do you face any problems in managing the funds of your company

- a. Yes
- b. No
- c. Do not know

14. If Yes, what are the problems? Do they include...(tick as many as applicable)

- a. Lack of marketable securities
- b. Strict company regulations
- c. Unawareness of the availability of marketable securities
- d. Uncooperative attitude of bankers
- e. Others (please specify).....

15. How do you think the above problems can be solved?

.....

.....

.....

.....

16. Does it take you so long to collect your collectibles?

- a. Yes
- b. No
- c. Do not know

17. How long does it take?

18. When is account receivable considered delinquent?

.....

.....

19. In cases of default, what do you do?

- a. Resort to a collection agency
- b. Take the case to court upon several warnings
- c. Cancel the debt and blacklist the customer
- d. Others (please specify).....

20. Do you think good and effective cash management has a role to play in the profitability of your firm?

- a. Yes
- b. No
- c. Do not know

21. Explain how?

.....

.....

22. What is the annual pattern of sales of the company? Tick the sales type and give the percentage it constitutes of total sales.

Type of sales	Percentage of total sales
Cash <input type="checkbox"/>	
Credit <input type="checkbox"/>	

23. Has your company got a credit policy?

- a. Yes
- b. No
- c. Do not know

24. Why do you order large quantities of stock?

.....

25. What is the kind of demand that you face in the industry you operate in?

a. Stable

a. Seasonal

b. Stable, with seasonality

26. What are the sources of short term financing available to your organisation?

.....
.....
.....

27. In your funding policy, do you finance current assets with short-term funds?

a. Yes b. No c. Do not know

28. Do you use short-term funds to finance long-term investments?

a. Yes b. No c. Do not know

29. Any suggestions on how to improve the working capital situation in your kind of industry?

.....

Thank you!

APPENDIX C

INTERVIEW GUIDE

1. Does your company have a cash management policy?
2. If No, what guidelines do you follow in deciding how much excess fund to invest in marketable securities or hold as cash balances
3. Do you have any criteria for deciding which marketable securities to invest in?
4. What do you do with your surplus or idle cash balances?
5. Do you employ any forecasting tools in determining your cash needs and therefore your cash balances?
6. Do you face any problems in managing the funds of your company and how could they be solved?
7. When do you consider account receivable as delinquent, and in cases of default, what do you do?
8. Do you think good and effective cash management has a role to play in the profitability of your firm? How?
9. Has your company got a credit policy?
10. Why do you order large quantities of stock and what is the kind of demand that you face in the industry you operate in?
11. What are the sources of short term financing available to your organisation?
12. In your funding policy, do you finance current assets with short-term funds?
13. Do you use short-term funds to finance long-term investments?
14. Any suggestions on how to improve the working capital situation in your kind of industry? Thank you!

APPENDIX D

SOME RECOMMENDED ACADEMIC MODELS

The Baumol model

One of the first models for determining the optimal cash balance a firm must hold was developed

by William J. Baumol in 1952. His model is intended for determining the cash holdings kept for

transaction purposes, that is, cash needed for conducting everyday business.

The Baumol model assumes that the net cash flows occur at a constant rate, the cash balance is

replenished periodically by selling marketable securities, whereas the broker's fee is fixed for each transaction.

The primary disadvantages of this model are a result of its assumptions, mostly of the assumption for steady and predictable cash flows. Furthermore, it does not consider any seasonal and cyclical

William J. Baumol's model of cash management is trades off between opportunity cost or carrying cost or holding cost & the transaction cost. As such a firm attempts to minimize the sum of the holding cash & the cost of converting marketable securities in to cash. This helps in determining a firm's optimum cash balance under certainty.

William J. Baumol's Inventory model assumptions are:

- Cash needs of the firm is known with certainty
- Cash Disbursement over a period of time is known with certainty
- Opportunity cost of holding cash is known and remains constant

Using 'T' to represent the transaction cost associated with cash infusion, 'D' represents the annual demand for cash and 'K' represents the opportunity cost associated with holding cash, the amount of cash that a firm should obtain each time it gets a cash infusion 'Q' can be calculated using the formulae known as the Baumol Model

$$Q = \sqrt{2TD/K}$$