

**THE IMPACT OF TRADE CREDIT MANAGEMENT ON FIRM'S PERFORMANCE  
(CASE STUDY- GUINNESS GHANA BREWERY LIMITED)**

**ABOAGYE KWARTENG AMANING**

**ADJEI BOAHEN GEORGE**

**AMPONFI OSEI KOFI BISMARCK**

**ABENA GYANKOMA**

**ALHASSAN ABDULAI JEDUAH**

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**STATEMENT OF AUTHENTICITY**

We have read the university regulations relating to plagiarism and certify that this report is all our own work and does not contain any unacknowledged work from any other source. We also declare that we have been under supervision for this report herein submitted.

<b>Name</b>	<b>Index Number</b>	<b>Signature</b>	<b>Date</b>
<b>Aboagye Kwarteng Amaning</b>	<b>10140645</b>	.....	.....
<b>Adjei Boahen George</b>	<b>10140980</b>	.....	.....
<b>Alhassan Abdulai Jeduah</b>	<b>10140934</b>	.....	.....
<b>Abena Gyankoma</b>	<b>10140643</b>	.....	.....
<b>Amponfi Osei Kofi Bismark</b>	<b>10135037</b>	.....	.....

**Supervisor's Declaration**

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision laid down by Christian service University College.

**Supervisor's Name**

**Mr. Samuel Yawlui** ..... ..

**Head of Department's Name**

**Kwaku Ahenkorah (Dr.)** ..... ..

## **ABSTRACT**

An efficient credit management system reduces the amount of capital tied up with debtors and minimizes bad debts. Good credit management system is vital to business cash flow and success and ensures effective business operation.

The study investigated the impact of financial management of trade credit on firm's performance; using Guinness Ghana brewery limited (GGBL) as case study. The choice of the topic was influenced by the impact of short term financial management of trade credit on profitability of companies.

Secondary data was used for the study. It noted that, average collection period of 39.6 days was maintained by GGBL over the period. Average payment period was also 96.2 days, which was encouraging. This means that, supplies made to GGBL on credit were utilized to turn over sales cycle three times before payments were eventually made to suppliers. The performance in terms of profitability evidenced by ROE (Return On Equity), was 36% and OPM (Operating Profit Margin) was 12.4%. This goes to highlight the importance the impact of efficient credit management have on profitability of firms.

The study further observed that ACP and APP were positively related to profit margin (OPM), but negatively related to return on equity. The study was observed to be consistent with other studies conducted by Poutziouris, Michaelas and Soufani (2005)

The recommendations made include;

- Policy makers should have the interest in promoting efficient management of working capital to facilitate performance management.
- Top management of every firm should manage their trade credits prudently in order to remain profitable and competitive.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 BACKGROUND OF THE STUDY

An efficient credit management system reduces the amount of capital tied up with debtors and minimizes bad debts Finlay (2009). Peter D. (2005) conceived that there is a positive correlation between credit management and profitability. According to Dina A. (2007), good credit management is vital to business cash flow and ensures business operations. Good credit management involves optimizing cash flow to ensure stability and provide maximum potential for growth. Credit arises when a firm sells its products or services on credit and does not receive cash immediately. It is an essential marketing tool, acting as a bridge for the movement of goods through production and distribution stages to customers. A firm grants trade credit to protect its sales from the competitors and to attract the potential customers to buy its products at favorable terms. Trade credit creates receivable or book debts which the firm is expected to collect in the near future. The book debts or receivable arising out of credit has three characteristics: first, it involves an element of risk which should be carefully analysed. Cash sales are totally riskless, but not the credit sales as the cash payment are yet to be received. Second it is based on economic value. To the buyer, the economic value in goods or services passes immediately at the time of sale, while the seller expects an equivalent value to be received later on. Third, it implies futurity. The cash payment for goods or services received by the buyer will be made by him in a future period. The customers from whom receivable or book debts have to be collected in the future are called trade debtors or simply as debtors and represent the firm's claim or asset.(Ramamoorth,1976,p.183)



Receivable constitutes a substantial portion of current assets of several firms. For example in India, trade debtors, after inventories, are the major components of current assets. They form about one-third of current assets in India. Granting credit and creating debtors amount to the blocking of the firms funds,(Ramamoorthy,1976.)

It is perceived that the following factors might have contributed to high failure of business having bad debt sitting in their account statements;

- Either no documentation or poorly constructed documentation specifying the terms and conditions of trade in the organization's credit policy.
- Inability to seek legal advice before finalizing the documentation to ensure it has internal consistency and covers all the key issues.
- Inability to clearly specifying what will be supplied, when the work will be done, and when and how payment is to be made.
- Failure to obtain a written acceptance of the agreement along with written approval of any variations to the original agreement
- Poor timing of invoicing and insufficient details to resolve invoice queries or disputes quickly.
- Poor maintenance of debtors' records to identify any due or over due debts and how much is owed and who owes (Ramamurthy, 1976.)

Philip K. (2010) cited four basic things businesses must strive for effective credit management:

- Know who your customers are before you start trading with them.
- Agree payment terms before supplying,
- Invoice promptly after you have sent the goods; and
- Do not be afraid to ask for payment when it is due.

The importance of practicing good credit management cannot be over emphasized. According to Michael (1997), good credit management is an essential component and a fundamental part of the modern commercial strategy. Michael (1997) consented that extending credit to customers is an aid to selling and all staff should be involved. Michael blended sensible control of credit management and customer satisfaction with profitability. According to Steve (1997) of Association of Credit Professionals (ACP) good credit management is all about customer satisfaction and profit. Steve, (1997) agreed with Michael's assertion. Michael contended that satisfied customers are more likely to pay promptly than buyers who feel they are not getting a good deal.

Indeed if revenue is the energy that powers company, credit management is the engine that keeps it flowing. The credit management engine acts as a powerhouse, driving revenue and motivation to every part of the company. As credit management engine becomes more refined and efficient, so the company becomes more productive and profitable. Good credit management should be a proactive task, starting even before the sales begin. Effective credit management will protect and prosper the business with regards to profitability however; the opposite is true if ineffective credit management is practiced. Credit indeed impacts all areas of life and efficient credit management minimizes delinquency and bad debt losses.

It is against this background that the researchers want to ascertain the impact of credit management on profitability using GGBL as a case study.

## **1.2. PROBLEM STATEMENT**

A lot of studies have been conducted to establish the impact of short term debt management policies on profitability. Dina, A. (2007) argued that, it appears that customers who pay

promptly are not the problem but those who cannot pay or would not pay. Invariable unpaid debts will affect profitability. If repayments are not made regularly as a result of poor controlling, monitoring and collection of debts, then the ability to make profit is severely affected. It is believed that inefficient credit management generates irregular incomes which hinder the organization's effectiveness and efficiency.

Further study conducted by Michael,(1997) concluded that, about 38% of businesses that extend credit to clients are unlikely to sustain in the market. Michael asserted that it is possible to be profitable on paper but lack the cash to continue operating the business. The European Commission in 2008 reported that, 33% of EU businesses regard late payment as a survival-threatening issue. The report stated that late payments hinder the functioning of the single market and cross-border trade.

However, extending credit has become an aspect of everyday business activity to be able to increase sale. Since it contributes significant revenue to businesses especially as the world recovers from the financial shocks of recent years and exposures of company balance sheet

The above have demonstrated the contributions made so far by these researchers in contributing to the existing literature in this context. Irrespective of this doubt still remains as to whether the findings can be applied in the Ghanaian situations, where the business environment is very fragile. In addition, there is inadequate research on trade credit management in Ghana.

Furtherance to this, the significance of the relationship between the two variables still remains to be empirically concluded. Hence this study was initiated to contribute to the existing

literature using data from the Ghanaian business environment. It is hoped that the findings of this study will have enormous policy implications to the private sector given the fact that the private sector has been earmarked to be the engine of growth.

### **1.3 RESEARCH OBJECTIVE**

The objective of this study is to identify any relationship between short term financial management of trade credit on profitability of GGBL. .Specifically; we are going to look at the Average Collection Period (ACP), Average Payment Period (APP) and their relationship with Return On Equity (ROE) and Operating Profit Margin (OPM)

### **1.4 RESEARCH QUESTIONS**

Do short term debt or trade credit management policies or decisions matter in firms' performance in Ghana? Is there any relationship between trade credit management and performance? To what extent does effective trade credit financial management affect profitability?

### **1.5 RESEARCH HYPOTHESIS**

To answer the above questions the following hypothesis are designed based on the test of the null hypothesis:

**H<sub>0A</sub>:** There is no significant relationship between short term debt or credit and profitability as measured by Return on Equity (ROE) and operating profit margin (OPM).

**H<sub>1B</sub>:** There is a significant relationship between short term debt or credit and profitability as measured by Return on Equity (ROE) and operating profit margin (OPM).

**H<sub>0i</sub>:** There is no significant change in firm's profitability as a result of increase or decrease in short term debt and credit.

**H<sub>0ii</sub>:** There is a significant change in firm's profitability as a result of increase or decrease in short term debt and credit.

## **1.6 SCOPE OF THE STUDY**

The study covered a period of 2004 - 2012 works of GGBL.

## **1.7 SIGNIFICANCE OF THE STUDY**

For the academic world, this study has shed some light on the short term debt policies. The significance of this study has further enhanced considering the fact that research into the relationship between short term debt and profitability in Ghana is only at its infantile stage. For practitioners, this study is relevant and of much interest to financial controllers, managers, directors particularly those working in the brewery sector to get to know about the trend of debt management policies of their competitors. The study is also relevant to the government of Ghana. Policy makers in Ghana recently developed Medium-Term National Private Sector Development Strategy, and articulated government's commitment to facilitating private sector-led growth. It is expected that the findings of this study will have important policy implications.

## **1.8 LIMITATIONS OF THE STUDY**

The limitations of the study are;

- Financial constrains
- Time constrain.

## **1.9 ORGANIZATION OF THE STUDY**

The study is organized as follows:

Chapter One covers the background, statement of the problem, purpose of the study, research question, significance of the study, limitations, and organization of the study.

Chapter two; Review of related literature on; Theoretical basis of the study, Working capital management, Management of trade credit, Financing current assets, Empirical studies on working capital management and its effects on performance.

Chapter three covers research methodology used for this study. The chapter includes the sources of the data, description of the variables; research questions with respective hypotheses. The analysis of the data and the tools that were used to perform the statistical analysis.

Chapter four; includes data analysis, presentation of results and discussion of the findings of the study.

The last chapter that is chapter five; consists of the summary of findings, recommendations and conclusion.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 INTRODUCTION**

This chapter reviews the conceptual framework of the study. The chapter considered some leading empirical studies that has helped popularized the concept of financial management of trade credit. It goes further to analyze some theoretical issues pertaining to trade credit management on working capital.

#### **2.1 THEORETICAL BASIS OF THE STUDY**

The significant of effective working capital management lies in the fact that working capital is the engine of growth for every business organization .working capital can be managed effectively when proper attention has been paid to current asset ( cash/bank, trade credit, inventories) and current liabilities( trade payables, owing, short term loans). There may be excellent and competent sales personnel, brilliant designers to design exactly what the customer's want, smooth and efficient production methods but if trade credit is not well managed, the business will come to a standstill. Working capital management (WCM) is the management of short-term financing requirements of a firm. This includes maintaining optimum balance of working capital components; receivables, inventory and payables and using the cash efficiently for day-to-day operations. Optimization of working capital balance means minimizing the working capital requirements and realizing maximum possible revenues. Efficient WCM increases firms' free cash flow, which in turn increases the firms' growth opportunities and return to shareholders. Even though firms traditionally are focused on long term capital budgeting and capital structure, the recent trend is that many companies across different industries focus on WCM efficiency. Inadequate working capital leads the company to bankruptcy.

On the other hand, too much working capital results in wasting cash and ultimately the decrease in profitability (Chakraborty, 2008).

### **2.3 SIGNIFICANCE OF WORKING CAPITAL MANAGEMENT**

To be effective, working capital management requires a clear specification of the objectives to be achieved. The purposes of working capital management are: To increase the profitability of a company, and to ensure that the firm has sufficient liquidity to meet short-term obligations as they fall due and so continue in business. Profitability is connected to the goal of shareholders wealth maximization, so investment in current assets should be made only if an acceptable return would be obtained. On the other hand, liquidity is needed for a company to continue in business. A company may consider holding more cash than is needed for day –to – day operations or transaction needs. The twin goals of profitability and liquidity will often conflict since liquid assets give the lowest returns. For example, cash kept in a safe will not generate a return while a six-month bank deposit will earn interest in exchange for loss of assets for the period.

### **2.4 POLICIES OF WORKING CAPITAL MANAGEMENT**

Working capital management is important that, a company needs to come out with clear policies relating to the various components of working capital. These key policies areas relate to;

The level of investment in working capital for a given level of operations and the extent to which working capital is financed from short-term funds such as bank overdrafts. A company should have working capital policies on the management of debtors, cash, inventories, and



short-term investments in order to minimize the possibility of managers coming out with decisions which are not in the best interest of the firm or company.

Working capital policies will also need to reflect the credit policies of a company's close competitors since it would be unfair to lose business because of an unfavorable comparison of terms of trade.

## **2.5 STAGES OF WORKING CAPITAL MANAGEMENT**

An aggressive policy with regard to the stages of investment in working capital means that a company chooses to operate with lower levels of cash, debtors and inventory for a given level of sales or activity. An aggressive policy will increase profitability since less cash will be tied up in current assets, but it will also increase risk since the possibility of cash shortages or running out of inventories is increased.

A conservative and more flexible working capital policy for a given level of turnover would be associated with maintaining a larger cash balance, perhaps even investing in short-term securities, offering more generous credit terms to customers and holding higher levels of inventory, such a policy will give rise to a lower risk of financial problems or inventory problems, but at the expense of reducing profitability.

Finally, a moderate policy would tread a middle path between the aggressive and conservative approaches. It should be noted that the working capital policies of a company can be characterized as aggressive, moderate or conservative by comparing them with the working capital policies of similar companies. There are no absolute benchmarks of what may be regarded

as aggressive for analyzing the ways in which individual companies approach the operational problem of working capital management.

### **2.5.1 WORKING CAPITAL MANAGEMENT OVERVIEW**

Working capital represents operating liquidity available to a business along with fixed assets such as plant and equipment. Working capital is considered a part of operating capital and it is calculated as current asset minus current liabilities. If current assets are less than current liabilities, an entity has a working capital deficit or deficiency. An increase in working capital indicated that the business has either increased current assets (that is received cash, or other current assets) or has decrease current liabilities.

Decisions relating to working capital and short-term financing are referred to as working capital management. These involve managing the relationship between firm's short-term assets and its short-term liabilities. The goal of every business is to able to continue its operations and that it has sufficient cash flow to satisfy both upcoming operational expenses and maturing short-term debt.

A measure of cash flow is provided by the cash conversion cycle. This is the net number of days from the outlay of cash for raw material to receiving payment from the customer. As a management tool, this metric makes explicitly the inter-relatedness of decisions relating to inventories, cash, accounts receivable and payables. This number of days effectively corresponds to the time that the firm's cash is tied up in operations and unavailable for other activities.

Brealey, et al (2006) explained that, company can be gifted with assets but short of short term financing if its assets cannot be readily converted into cash. They argued further that, positive working capital is required to ensure that a company is able to continue its operations and that it has sufficient funds to satisfy both maturing short-term debt and operational expenses. Therefore the management of working capital involves aging inventories, cash, and account receivable and payable.

Dike Ross, Westerfield and Jordan, Brealey, Myers and Marcus, Kofi Osei in "A workshop working capital management" (2000) defined working capital as current assets and current liabilities. He went further to divide working capital into two types. Permanent and Temporal working capital, permanent working capital is the working capital that persists over time despite fluctuations in sales. He further stated that temporal working capital is the additional assets needed to meet, variations in sales above the permanent working capital level.

These parts considered the ideas of some writers relevant to the study and in my opinion two views were discussed with respect to the split between current and fixed assets as well as fixed long-term liabilities and the need to ensure effective working capital management. Both views apparently agreed that effective working capital management can free significant instant liquidity, a valuable tool at a time when liquidity is a scarce commodity. It must however be stressed that, this study shall convert the general working capital management and its impact on organizations and it is not limited to any particular type of business organization.

## 2.6 CONSTITUENTS OF WORKING CAPITAL MANAGEMENT

Working capital consists of short term or current assets and current liabilities.

### **Current Assets**

One significant component of current assets is Accounts Receivable. Accounts receivable arise because companies do not usually expect customers to pay for their goods and services immediately. These unpaid bills are a valuable asset that companies expect to be able to turn into cash in the near future. The bulk of accounts receivable consists of unpaid bills from sales to other companies and are known as trade credit. The remainder arises from the sale of goods to the final consumer.

Another important current asset is inventory. Inventories may consist of raw materials, work in progress, or finished goods awaiting shipment. Banks also lend on the security of inventory, but they are careful about the inventory they will accept. They want to make sure that they can identify and sell it if you default. Automobiles and other standardized non-perishable commodities are good security for a loan. Banks need to monitor companies to be sure they don't sell their assets and run off with the money.

To protect themselves against this sort of risk, lenders often insist on field warehousing. An independent warehouse company hired by the bank supervises the inventory pledged as collateral for the loan. As the firm sells its product and uses the revenue to pay back the loan, the bank directs the warehouse company to release the inventory back to the firm. If the firms default on the loan, the bank keeps the inventory and sells it to recover the debt.

The remaining current assets are cash and marketable securities. The cash consists partly of cedi bills, but most of the cash is in the forms of bank deposits. These may be demand deposits (money in current accounts that the firm can pay out immediately) and fixed deposits (money in savings account that can be paid out only with a delay). The principal marketable security is commercial paper (Short-term unsecured debt sold by other firms). Other securities include Treasury Bills and others which are Short-Term debts sold by the Government of Ghana and state and local security agencies.

In managing their cash, companies always enjoy the advantages to holding large amounts of ready cash; - They reduce the risk of running out of cash and having to borrow more on short notice. On the other hand, there is a cost to holding idle cash balances rather than putting the money to work earning interest.

### **Current Liabilities**

It has been established that a company's principal current liabilities consists of unpaid bills. One firm's credit must be another's debit. Therefore, it is not surprising that a company's principal current liability consists of accounts payable; that is, outstanding payments due to other companies. The other major current liabilities consist of short-term a borrowing which has been fully explained under sources of short-term financing.

## **2.7 INVENTORIES MANAGEMENT**

According to William Baumol, an economist was the first to come out that, inventory models can tell us something about the management of cash balances. If that seems more easily said than done, it may interest you to know that, production managers make a similar trade-off as

why firms carry inventories of raw materials, work in progress and finished goods. They are not obliged to carry these inventories; for example, they could simply buy materials day to day; as needed. But then they would pay higher prices for ordering in small lots, and they would risk production delays if the materials were not delivered on time. That is why they order more than the firm's immediate needs. Similarly, the firm holds inventories of finished goods to avoid the risk of running out of product and losing a sale because it cannot fill an order.

But there are costs of holding inventories; money tied up in inventories does not earn interest; storage and insurance must be paid for; and often there is spoilage and deterioration. Production managers must try to strike a sensible balance between the costs of holding too little inventory and that of holding too much.

There are cost to keeping an excessive inventory of cash (the lost interest) and cost to keeping two small an inventory (the cost of repeated sales of securities). There are two costs associated with holding inventory. These are order cost and carrying cost. Order cost is the cost of placing order with a supplier involves a fixed handling expense and delivery charge. The second type of cost is the carrying cost. This includes the cost of space, insurance and losses due to spoilage or theft. The opportunity cost of the capital tied up in the inventory is also part of the carrying cost.

As the firm increases its order size, the number of orders falls and therefore the order costs decline. However, an increase in order size also increases the average amount in inventory. So

that the carrying cost of inventory raises. The trick is to strike a balance between these two costs. This is the kernel of the inventory problem.

Note that it is worth increasing order size as long as the decrease in total order costs outweighs the increase in carrying costs and the optimal order size is the point at which these two effects offset each other. This order size is called the economic order quantity. That is, order sizes that minimize total inventory costs.

The economic order quantity is a simplified version of the inventory management process in real firms, but it does capture the four essential features for inventory management; these are:

- Optimal inventory levels involve a trade-off between carrying costs and order cost.
- Carrying costs include the cost of storing goods as well as the cost of capital tied up in inventory.
- Inventory levels will be lower when storage or interest costs are high and will be higher when restocking costs are high.
- Inventory level does not rise in direct proportion to sales. As sales increase, the optimal inventory level rises, but less than proportionately.
- Also, never forget that, the level of inventories should always depend on your forecast of sale, which like all forecasts is subject to uncertainty.

## **2.8 JUST -IN-TIME INVENTORY MANAGEMENT**

A number of firms have used a technique known as a just-in-time inventory management to make dramatic reductions in inventory levels. Firms that use the just-in-time system receive a nearly continuous flow of deliveries of parts and raw materials. For these firms, the extra cost of restocking is completely outweighed by the savings in carrying cost. Just -in-time inventory management can also reduce costs by allowing suppliers to produce and transport goods on a steadier schedule. However, such systems rely heavily on predictability of the production process. For instance, a firm in an industry with shaking labour relations would adopt a just-in-time system at its peril, for with essentially no inventory on hand; it would be particularly vulnerable to a strike.

## **2.9 WORKING CAPITAL AND CASH CONVERSION CYCLE**

The difference between current assets and current liabilities is known as net working capital, but financial managers often refer to the difference simply as working capital, usually current assets exceed current liabilities; that is, firms have positive net working capital.

If a firm's balance sheet is prepared at the beginning, you will see cash (a current asset). If you delay a little, you will find the cash replaced first by inventories of raw materials and then an inventory of finished goods (also current asset). When goods are sold, the inventories give to accounts receivable (another current asset) and finally, when the customers pay their bills, the firm takes out its profit and replenishes the cash balance.

The components of working constantly change with the cycle of operations, but the amount of working capital is fixed. This is one reason why net working capital is a useful summary measure of current assets or liabilities.



The following four key dates in the production cycle that influence the firm's investment in working capital. The firm starts the cycle by purchasing raw material, but it does not pay for them immediately. The firm processes the raw materials and then sells the finished goods. The delay between the initial investment in inventories and the sale date is the inventory period. Sometime after the firm has sold the goods, its customers pay their bills. The delay between the date of sale and the date at which the firm is paid is the accounts receivable period.

The total delay between initial purchase of raw materials and ultimate payments from customers is the sum of the inventory and accounts receivable periods. However, the net time that the company is out of cash is reduced by the time it takes to pay its own bills. The length of time between the firm's payment, firm's raw materials and the collection of payment from the customers is known as the firm's cash conversion cycle. That is the period between firm's payment for materials and collection of its sales.

The longer the production process, the more cash the firm must keep tied up in inventories. Similarly the longer it takes customers to pay their bills, the higher the value of accounts receivable. It may reduce the amount of cash it needs. In other words, accounts payable reduce net working capital.

## **2.10 WORKING CAPITAL TRADE-OFF.**

The cash conversion cycle is not cash in store but to a large extent, it is within credit management control. Working capital can be managed. For instance, accounts receivable are affected by the terms of credit the firm offers to its customers. The amount of money tied up in receivables can be cut down by getting tough with customer's who are slow in paying their

bills. Similarly, the firm can reduce its investment in working capital that has both cost and benefits.

The cost of the firm's investment in receivables is the interest that could have been earned if customers had paid their bills earlier. The firm also forgoes interest income when it holds idle cash balances rather than putting the money to work in marketable securities. The cost of holding inventory includes not only the opportunity cost of capital but also storage and insurance costs and the risk of spoilage or obsolescence. All these carrying costs encourage firms to hold current assets to a minimum.

While carrying costs discourage large investments in current assets a low level of current assets makes it more likely that the firm will face shortage costs. For instance if the firm runs out of inventory of raw materials, it may have to shut down production.

Similarly, a producer holding a small finished goods inventory is more likely to be caught short, unable to fill orders promptly. There are also disadvantages to holding small "inventories" of cash. If the firm runs out of cash, it may have to sell its securities and incur unnecessary trading cost. The firm may also maintain too low a level of accounts receivable but if the firm tries to minimize accounts receivable by restricting credit sales, it may lose customers.

Therefore, an important job of the financial manager is to strike a balance between the cost and benefits of current assets that is to find the level of current assets that minimizes the sum of carrying costs and storage costs.

## **2.11 MANAGING CASH FLOWS**

The efficient way of managing cash flow means that debts should be collected in line with agreed credit terms and cash should be quickly banked. Prompt banking will either reduce the interest charged on an outstanding overdraft or increase the interest earned on cash deposits. Credit offered by suppliers should be used to the full and payments made as late as possible, provided the benefit of these actions is greater than the benefit of taking any early payment discounts available. The float is the period of time between initiating payment and receiving cash in a company's bank account. The floats can vary between four and nine days and consist of:

Transmission on delay; time taken for a payment to pass from payer to payee. Lodgment delay: delay in banking any payments received. Clearance delay: time taken by a bank to clear presented instructions to pay:

The float can be reduced by minimizing lodgments delay and by simplifying and speeding up cash handling. A good cash management will seek to keep the float to a minimum.

## **2.12 MANAGERMENTS OF TRADE CREDIT (DEBTORS)**

A company's credit management policy should help it maximize expected profits. It will need to take into accounts its current and desired cash position, as well as its ability to satisfy expected demand. For effective trade credit management policy, managers may need training or qualified staff.

The key variables affecting the level of debtors will be the terms of sale prevailing in a company's area of business and the ability of the company to match and service comparable terms of sale. There is also a relationship between the level of debtors and a company's pricing policy. The effectiveness of debtor follow-up procedures used will also influence the overall level of debtors and the likely hood of bad debts arising.

The debtor's management policy decided upon by managers should also take into account the administrative costs of debt collection, the way in which the policy could be implemented effectively and the costs and effects of erasing credit. It should balance the benefits to be gained from offering credit to customers against the costs of doing so.

Longer credit terms may increase turnover, but will also increase the risk of bad debts. The cost of increased bad debts and the cost of any additional working capital required should be less than the increased profits generated by the higher turnover. In order to prepare debtors policy, a company need, to set up a credit analysis system, a credit control system and a debtor collection system.

### **2.12.1 ACCOUNT RECEIVABLE AND CURRENT LIABILITY MANAGEMENT**

Account receivable is defined as money owned at a company from the sale on credit of goods and services in the normal course of business. The two credit types are trade credit and consumer credit. Trade credit refers to sales made on credit to another business and consumer credit refers to credit sales made to an individual.

## **Terms of sale**

When goods are sold, you need to set the terms of sale. For example if you are supplying goods to a wide variety of irregular customers, you may require cash on delivery. And if you are producing goods to the customer's specification or incurring heavy delivery cost, then, it may be sensible to ask for cash before delivery. Some contracts provide for progress payments as work is carried out. For instance, a large consulting contract might call for 30 percent payments after completion of field research, 30 percent more on submission of a draft report and the remaining 40 percent when the project is finally completed.

In many other cases, payment is not made until after delivery, so the buyer receives credit. Each industry seems to have its own typical credit arrangements. When you buy on credit, the supplier will state a final payment date. To encourage you to pay before the final date, it is common to offer cash discount for prompt settlement. A manufacturer may require payment within 30 days but offer a 5 percent discount to customers who pay within 10 days. These terms would be referred to as 5/10 net 30.

When purchases are subject to seasonal fluctuations manufacturers often encourage customers to take early delivery by allowing them to delay payment until the usual order season. This practice is known as season dating. A firm that buys on credit is in effect borrowing from its supplier; it saves cash today but will have to pay later. This is an implicit loan from the supplier.

## **Credit agreements**

Credit agreements are agreements whereby sales are made with no formal debt contract. The terms of sale define the amount of any credit but not the nature of the contract. Repetitive

sales are almost always made on open account and involve only an implicit contract. Sometimes you might want a clear commitment from the buyer before you deliver the good. In this case the common procedure is to arrange a commercial draft. The seller prepares a draft ordering payment by the customer and sends this draft to the customer's bank. If immediate payment is required, the draft is termed as a sight draft. Depending on whether it is a sight or time draft, the customer either tells the bank to pay up or acknowledges the debt by adding the word accepted and a signature.

Once accepted, a time draft is like a postdated cheque and is called a trade acceptance. This is then forwarded to seller, who holds it until the payment becomes due. But when the customer's credit is for any reason suspect, the seller may ask the customer to arrange for his or her bank to accept the time draft; by so doing the bank guarantees the customer's debt. When goods are sold to customers who unable to pay, you cannot get your goods back. You simply become a general creditor of the company. This situation can be avoided by making a conditional sale, so that ownership of the goods remains with the seller until full payment is made. This is normally used for goods that are paid on installment basis, so that if the customer fails to make the agreed number payments, then the goods can be immediately repossessed by the seller.

### **Credit analysis**

Credit analysis is a procedure to determine the likelihood a customer will pay its bills. There are a number of ways to find out whether customers are likely to pay their debts. The most obvious indication is whether they have paid promptly in the past. Prompt payments is usually a good owner, but beware of the customer who establishes a high credit limit on the basis

of small payments and then disappears, leaving you with a large unpaid bill. But if you are dealing with a new customer, you will probably check with a credit agency.

Credit agencies usually report the experience that other firms have had with your customer but you can also get this information by contacting those firms directly or through a credit bureau. Again, your bank can also make a credit check, that is, it will contact the customer's bank and ask for information on the customer's average bank balance, access to bank credit and general reputation. In addition to checking with your customer's bank, it might make sense to check what everybody else in the financial community thinks about your customer's credit standing. Finally, you can look at how the customer's stock price has been behaving recently. A sharp fall in price doesn't mean that the customer is in trouble, but it does suggest that prospects are less bright than formerly. The following important variable need to be discussed in order to make the subject of accounts receivable more meaningful.

### **Credit policy**

These are the management procedures concerning the extension of trade credit and accounts receivable management. They determine the level of sales and profits. Credit terms, credit standards and collection period policy are the variable under credit policy.

### **Credit terms**

The credit terms are the maximum amount of credit to be given, the length of period for payment (ie the net period), the discount rate (s) and the discount period (s) if any. The idea of discount is to attract customers, thereby increasing sales and to encourage the early payment of access as to reduce the amount tied up in accounts receivable.

## **Credit standards**

Credit standards determine the maximum risk that a firm is willing to take in extending credit. Credit to nearly all customers who request and to delay collection of other due accounts. This is aimed at attracting more new customers and also encouraging existing customers to go in for more credit. A strength policy on the other hand will keep the firms collection cost at the lowest minimum but also lead to the loss of customers to competitors.

The firm must therefore determine the nature of credit risk on the basis of prior record of payment, financial stability and the current net worth of the customer.

## **Collection policy and procedure**

A collection policy refers to the procedures the firm follows to obtain payment of past due accounts, the critical problem associated with this policy is the need to recognize when an account warrants a special attention. Again, collection policies are procedures to collect and monitor receivables. It would be nice if all customers paid their bills by the due date but that is not the case. Slow payers impose two costs on the firm. First, they require the firm to spend more resources in collecting payments. They also force the firm to investment in working capital.

When your customers stretch payables, you end up with a longer collection period and greater investment in accounts receivables. The credit manager keeps a record of payment experiences with each customer. In addition, the manger monitors overdue payments by drawing up a schedule of the aging receivables. The aging schedule classifies accounts receivables by the length of time they are outstanding. When a customer is in arrears, the usual procedure is to send a statement of account and follow this at intervals with increasing insistent letters,



telephone calls or fax messages. If none of these has any effect, most companies turn the debt over to a collection agency. There is always a potential conflict of interest between the collection department and the sales department. Sales representatives commonly complain that they no longer win new customers. The collection department frightens their customers with threatening letters.

The collection manager, on the other hand, becomes the fact that the sales force is concerned only with winning orders and does not care whether the goods are subsequently paid for. Good collection policy balances conflicting goals. The company wants cordial relations with its customers. It also wants them to pay their bills on time.

There are instances of cooperation between sales managers and the financial managers who worry about collection. For instance, the chemical division of a major pharmaceutical company actually made a business loan to an important customer that had been suddenly cut off by its bank. The pharmaceutical company knew the customer better than the customer's bank did and the company was right. The customer arranged alternative bank financing, paid back the company and became an even more loyal customer. This is a nice example of financial management supporting sales.

### **2.12.2 METHODS OF COLLECTION**

Reminders:

Reminders of overdue accounts are usually sent after a grace period has elapsed, customers are reminded of their overdue accounts. Letters sent to customers reminding them of their overdue accounts.

**Collection letters:**

These letters are generally stronger than reminders. They could take the form of a threat that the accounts are being turned over to a collection agency for action and when things fail, a legal action is taken against the customers.

**2.12.3 COST OF ACCOUNTS RECEIVABLES**

There are certain costs associated with holding accounts receivables. Opportunity cost of investment since accounts receivables tie up investible funds, there is an opportunity cost equal to the returns the funds could have earned to cover payment of wages, bad debts and delinquent account.

Some customers may automatically delay payment of their accounts (delinquent account) whilst others may not pay at all ('bad debt). With delinquent accounts, the longer the time the firm receive payment the grater will be the opportunity cost.

**2.12.4 EVALUATION OF CREDIT WORTHINESS.**

In evaluating the customer's credit worthiness, the five (5) 'C's of credit must be considered:

**Capacity:** This refers to the customer's ability to pay his or her debt.

**Capital:** The general financial position of the firm a shown by the ratio analysis.

**Character:** It is the willingness of the customer to pay his or her debt.

**Collateral:** This is represented by the assets the customer may offer as the security for the credit extended to him.

**Conditions.** This refers to the sensitivity of the customer's ability to pay with respect to underlying economic and market forces.

### **2.12.5 CURRENTS LIABILITIES**

Current Liabilities are the obligations due within one year or within the companies operating cycle. Firms generally make purchase from other firms on credit, recording the debt as an account payable.

### **2.13 FINANCING CURRENT ASSETS**

The way in which the assets of a company are financed involved a trade - off between risk and profitability. Short term financing can be categorized according to whether or not the source is spontaneous. Spontaneous financing arise naturally from the firms day to day transactions. Trade credits, accruals and other payables are classified as spontaneous. There are also negotiated sources of short term financing consisting of money market credit and both secured loans and unsecured short - term loans. Every source of finance has cost; the point is to keep this cost to a minimum. The short-term financial problem is how to balance the options available.

### **2.14 SOURCES OF SHORT-TERM FINANCING**

Firms normally depend on long-term financing for their capital investment. How a firm will finance that investment depends on its financial policy. However, sometimes a firm may face a short-term financing problem and may look for ways of getting funds to solve such a problem. Below are some short-term borrowing options available to firms.

## **Bank Overdraft**

The most common way to finance a temporary cash deficit is to arrange a short-term bank overdraft. This is a loan from a bank, which normally has a specified upper limit. This is known as a non-committed loan, which allows firms to borrow up to a previously specified limit without going through the normal paperwork (much like a credit card). The borrower only borrows to the extent that funds are needed. A bank overdraft is thus a very flexible form of financing in that interest is only paid on the money actually borrowed at any point in time. As the company receives funds, they are paid into the bank account and the overdraft automatically falls.

The interest rate charged depends on the perceived riskiness of the borrower and the extent to which security is provided. Invariably the strongest public companies will be able to obtain an overdraft at prime rates of interest, without the provision of any form of security. Smaller companies will be charged rates which could be as high as the prime rate. The most important factor to note about a bank overdraft is that it is a short-term source of finance. It is generally renegotiated annually with the bank. It is meant to provide a fluctuating source of working capital for companies.

## **Trade of Suppliers' Credit**

Most companies buy goods on credit. Suppliers usually have standard terms which apply to their customers. These would include a specified period after which payment is due and sometimes a maximum amount beyond which no further goods would be supplied until payment of the amount owing is made. Normally, however, this form of finance expands as the purchasing firm grows, and provided payment is made within the specified period, suppliers

are generally happy to increase the amount of credit offered. There is no explicit cost associated with accounts payable. Of course when a supplier does extend credit, presumably the cost thereof is included in the price of the goods or services. Some suppliers will, however, stipulate that interest will be charged on any overdue amount. Suppliers, in order to encourage prompt payment, sometimes offer a discount for payment within a shorter time than the normal payment period.

### **Letters of Credit**

A letter of credit is a common arrangement in international finance. With a letter of credit, the bank issuing the letter promises to make a loan if certain conditions are met. Typically, the letter guarantees payment on a shipment of goods provided that the good provided that the good arrive as promised. A letter of credit can be revocable (Subject to cancellation) or irrevocable (not subject to cancellation if the specified conditions are met.)

### **Secured Loans**

Banks and other finance companies often require security for a short-term loan just as they do for a long-term loan. Securities for short-term loans usually consist of accounts receivable, inventories, or both. Additionally directors for smaller companies would normally be required to secure the loan by means of personal guarantees.

### **Factoring**

Factoring is a way of turning accounts receivables quickly into cash, thereby reducing the level of investment in assets needed by the firm. The accounts receivables are sold to financial institutions (the factor) that specialize in this form of activity.

Although factoring is the process of purchasing an asset (the firm's receivables), funds are advanced against accounts receivables, which are only to be collected in the future. Therefore interest is charged on any amount advanced. Typically interest charges in factoring would be equal to or slightly above the firm's prime overdraft rate.

The factor undertakes all the credit control work associated with the client's receivables book: collecting outstanding amount; sending out statements; and providing a computerized management reporting system to the client. A service fee of a percentage of the gross value of invoices sold during a calendar month is charged for these activities. This fee will depend on the volume of invoices to be processed, the quality of the firm's receivable and the amount of work the factor estimates will need to be put into managing the account. It can range from 0.25% to 3% of sales revenues-although the average charge is of the order of 1%.

The benefits of factoring include the following:

- Turning credit sales into cash providing additional working capital for growth;
- Enabling clients to take advantage of trade discounts;

Increasing the client's management time to concentrate on the business; Cutfm, a leading factoring house in South Africa reports that often teh biggest benefit to businesses that switch to factoring is the "economics of scale' that an be attained through the assistance of this form of financing.

Factoring can be done openly or confidentially. The latter is known as invoice discounting. If factoring is done confidentially (some firms prefer their customers not to know that they have factored their receivables, and in some cases the sheer volume of invoices being produced make the normal full factoring impractical), there is no annotation on invoices. Customers continue to make payment to the firm directly.

The factor will now need to send their staff into the firm to establish the actual levels of receivables and check on the existence of invoices and proofs of delivery. The firm will supply lists of sales and collections, at least on a weekly, and sometimes a daily basis. A set amount is normally charged for a confidential factoring service (apart from the interest charge). It normally equates to only 0.25% to 0.5% of monthly sales revenue. Since, even under invoice discounting, the receivables invoices are ceded to the factor, the factor must now appoint the firm as its collection agent and an agency agreement is drawn up. This type of factoring is really only applicable to large firms since an important qualifying criterion is a sophisticated systems infrastructure and good management of the receivables book.

### **Acceptance Credits**

Large companies requiring credit, usually to finance a trade transaction, often use banker's acceptances. These are bills of exchange, usually with a maturity of 90 or 180 days. The purchaser of goods that are the subject of the transaction writes a document (the bill) on which is stated the amount and nature of the transaction being financed. The purchaser presents the bill to its bank; which accepts the bill, thereby guaranteeing payment on due date and the purchaser endorses the back of the bill, thereby indicating its liability to the accepting bank. The bill is forwarded to the supplier who then effects delivery of the goods.

On due date supplier of the goods presents the bill to the accepting bank, which effects payment and claims the amount of the loan from the purchaser. The supplier can obtain earlier payment by discounting the bill. This is done by selling it, at an appropriate discount to its face value, in the money market. The bank guarantees payment and the bank's security depends on the creditworthiness of the purchaser. Thus bankers' acceptances are usually only used by larger companies.

### **Other Sources**

Another option available to a firm is to increase the accounts payable period; in other words, it may take longer to pay its accounts. This amounts to borrowing from suppliers in the form of trade credit. This is an extremely important form of financing for smaller businesses in particular. A firm using trade credit may end up paying much higher price for what it purchases, so this can be a very expensive source of financing.

## **2.15 EMPIRICAL STUDIES ON WORKING CAPITAL MANAGEMENT AND ITS EFFECTS ON PERFORMANCE.**

The management of working capital has been reported to be inadequate by researchers across the world. Although, empirical work on working capital practices of US SMEs has been extensive (McMahon & Holmes, 1991 and McMahon et al., 1993) empirical research on the working capital practices of UK SMEs has been less acute (Bolton, 1971; Peel and Wilson, 1996; Wilson, 1996, Jarvis et al., 1996; and Chittenden et al., 1998; Singleton and Wilson, 1998, Soufani 2002 are notable exceptions). The Bolton Committee were critical of many aspects of the financial management of small firms, reporting that information was often so



poor that management frequently learnt of an impending crisis only when the annual accounts appeared, or following an urgent call from the bank manager.

In fact, a study conducted by the chartered Institute of Management Accountants in the UK (CIMA, 1994) revealed that 20 per cent of businesses (most of which were smaller firms) that failed did so as a result of bad debts or poor credit management. Wilson (1996), examined the credit management practices in the UK, and found a strong connection between good credit management practice and aspects of company performance.

Wilson (1996) reports a strong relationship between efficiencies in managing the cash cycle and profitability. Wilson (1996), showed that those firms with late payment problems were typically reliant on short-term finance and were generally poorer in terms of credit management practice.

Similarly, Singleton and Wilson (1998), argue that although late payment is a concern for all small firms, some of them manage it better than others. They find that firms with formal credit management procedures were better in managing late debt. These businesses tend to use longer term finance compared to businesses that have bigger late payment problems and use various forms of short term finance to fund working capital needs (Singleton and Wilson, 1998).

Peel and Wilson (1996), analyzed the postal questionnaire responses of 84 small firms and conclude that a relatively high proportion of small firms in their sample use quantitative capital budgeting techniques, and review various aspects of the companies' working capital.

On the other hand, Jarvis et al. (1996) interviewed 20 small firms and indicated that 'best practice' models advocated by the finance literature are not necessarily appropriate to small firms and alternative approaches may be viable, even though these alternative approaches may be unorthodox in the eyes of academics. They conclude that financial management practices in small businesses are driven by the motivations of owner-managers which tend to be ignored in the literature.

Other study by Lazardidis and Tryfonidis (2006) has investigated the relationship between profitability and working capital management in the Stock Exchange Market of Athens throughout 2001-2004. The objective of their research was to study the relationship between profitability and the cycle of cash transformation and its components. Results indicate that a significant relationship exists between gross operational profit and the cash transformation cycle. Moreover managers can generate a good profit for the company using the right management techniques for the cash transformation cycle and its components.

Following closely was Nazir and Afza (2009), who have studied the relationship between profitability and working capital management policies in 208 companies listed in Tehran Stock Exchange throughout the years 1998-2005. Results have shown that managers using conservative strategies have been able to increase the value of their stocks. Findings indicate that in selecting a portfolio, investors choose companies that apply short term credit policies and retain a low level of current liabilities.

Furthermore, Zubiri (2010) studied the impact of working capital management on company profitability in a research performed on the automobile production industry in Pakistan from 2000 to 2008.

The researcher has used current ratio as an indicator for working capital management policies and financial leverage as the indicator for capital structure. Variables in this research were tested using the correlation coefficient and multi variable regression. Results of the research indicate that companies must increase current assets and decrease current liabilities for maximizing profitability.

Findings reflect that the increase in cash flow would result in an increase in profitability. Moreover a positive relationship exists between profitability and the financial leverage. In addition, Nobani, Abdollatif and Alhajjar (2010), studied the relationship between the cash transformation cycle and profitability, they used data gathered from Japanese companies between the years 1990-2004. Results indicated that a negative relationship existed between profitability and the cash transformation cycle. The result was the same in all sample companies except service providers and commercial companies.

Moreover, Chatreji (2010) studied the impact of working capital management on profitability in companies listed in London stock exchange throughout the years 2006-2008. The researcher has used the Pearson correlation coefficient to evaluate the impact of cash transformation cycle, the period of collection of receivables, inventory retention period, liability settlement period, the current to quick ratio, to net operational profit. Results indicated that a negative relationship exists between working capital management and profitability. This means that an increase in cash transformation cycle would result in a reduction in profitabili-

ty. Moreover results have also stated that a negative relationship exists between liquidity and profitability as well.

Also, Hassanpoor (2007), has studied the impact of working capital strategies on stock return throughout 2001 to 2005. He selected 62 companies from 459 companies active in 34 industries listed in Tehran Stock Exchange and subsequently classified them into 9 industries. In this research, the significance of working capital was emphasized such that when considering the situation of the business entity the best working capital strategies are employed to maximize the interests of the entity and its investors. Moreover the impact of the type of strategy on the average stock return was evaluated and results indicated that a significant difference existed among these averages in various strategies and that bold strategies generate the highest stock return among the industry as a whole.

From the above empirical evidence, the significance of the relationship is inconclusive. Given the proportion of privately owned entities in our economy and their continual quest for more efficient use of resources in order to remain competitive, there is a definite need for more information on the methods used by firms to accumulate and allocate their scarce working capital resources.

Doubt also remains as to whether, the findings from these studies can straight away be applied in Ghana given the fact that they were all conduct in more advanced countries where the economic environment were stable as compared to Gha

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

This study aimed to provide a status on the extent to which a firm's performance may differ and how the value of firm changes as a result of efficient management of its credit or working capital. The objective of this chapter is to develop a model that measures the impact of efficient financial management of trade credit on company's performance.

The Poutziouris, Michaelas and Soufani (2005) model in their study to investigate the impact of financial management of trade credits in SME's on profitability in the UK was adopted and modified to serve as a framework for the model development. Research can be categorized into exploratory, descriptive, or explanatory (causal). Exploratory research is undertaken to gain better understanding of the dimension of a problem Saunders, Lewis and Thornhill (2007) cited Robson (2002) and contend that exploratory study is a valuable means of finding out what is happening; to seek new insights; to question and to assess phenomena in a new light. It is particularly useful to clarify an understanding of a problem.

Descriptive research seeks to describe characteristics of a population or phenomenon. The object of descriptive research is to portray an accurate profile of persons, events or situations, Robson, (2002) as cited by Saunders, Lewis and Thornhill (2007).

Causal study is used to identify cause – and - effect relationships between variables. Studies that establish causal relationships between variables may be termed explanatory studies. The emphasis here is on studying a situation or a problem in order to explain the relationship between variables (Saunders, Lewis and Thornhill 2007).

Based on this explanation, this study could be classified as causal in nature as it sought to explain the cause – and – effect relationship between credit management and performance variables. Therefore almost all the data used in this study were quantitative.

### 3.2. RESEARCH DESIGN

Research design encompasses the methodology and procedures employed to conduct scientific research. The design of the study defines type (the descriptive, co relational, semi – experimental, experimental, review, meta- analytic) and sub type (eg. descriptive- longitudinal case study), research question, hypothesis, independent and dependent variables.

For empirical purposes, the following operationalization equations were used. Previous study conducted by Poutziouris, Michaelas and Soufani (2005) estimated the model in linear form. This study also estimated the model in linear form. The full model used for testing firm’s performance in relations to its financial management of trade credit was as follows:

$$Y_{1,i,t} = \alpha_i + \beta_1 X_{1,i,t} + \beta_2 X_{2,i,t} + u_i$$

Where:

$Y_{1,i,t}$  is performance measure

$\alpha_i$  is constant generated by the system.

$\beta_1 X_{1,i,t}$  is coefficient of ACP

$\beta_2 X_{2,i,t}$  is coefficient of APP

$u_i$  is error term(errors in calculating ratio and variables that are omitted in determine the profit of the organization)

This was then modified as follows:

$$ROE_{1,i,t} = \alpha_i + \beta_1 ACP_{i,t} + \beta_2 APP_{i,t} + u_i \quad \text{eq.1}$$

Where,

ROE= return on equity

ACP = average collection period

APP = average payment period

$u_i$  = error term

$\beta_1$  measures the rate of change of the independent variables.

ACP and APP are the independent variables while ROE and OPM are the dependent variables.

To investigate the extent by which changes in working capital affect firm's ROE, equation 1 was developed: in equation 2 the same variables were maintained as in equation 1 except that, the dependent variable was changed to OPM (Operating profit margin).

$$OPM_{i,t} = \alpha_i + \beta_1 ACP_{i,t} + \beta_2 APP_{i,t} + u_i, \quad \text{eq. 2}$$

### 3.3 DATA CONSIDERATION AND SOURCES

To study the impact of financial management of trade credits on the value of firm, this study analyzed GGBL financial data for the period 2004 to 2012. This study used only secondary data, which were obtained from GGBL's statement of financial position (balance sheet) and statement of comprehensive income (income statements) from 2004 to 2012. The study used time series data. Time series analysis identifies the nature of phenomenon represented by the sequence of observation and forecast the future and observes a trend ([www.zaitunsoftware.com](http://www.zaitunsoftware.com)).

This study carefully attempted to select a number of factors that are essential to enhance the present status of the working capital management structure of the firm as well as to take a further movement towards success.

The period of 2004–2012 was chosen for two reasons. First, the early 2000 was a period in which most companies were rendered ineffective and suffered substantial losses due to the nature of the economy which was characterized by acute inflation and high interest rate. Second, many policy changes were made in early 2000's to strengthen the manufacturing sector and the stock market through financial reforms.

### **3.4 DESCRIPTION AND EXPLANATION OF VARIABLES**

#### **3.4.1 DEPENDENT VARIABLE**

A variable (often denoted by Y) whose value depends on that of another. Two dependent variables were used in this study. The data for the dependent variables— Return On Equity (ROE) and Net Profit Margin (NPM) — comes from the annual balance sheets and income statements. The return on Equity (ROE) is defined as the ratio of pre-tax profit to total Equity capital. This is a common and widely accepted measure of Return in the accounting and finance literature.

Net profit Margin is also defined as the ratio of pre-tax profit to total sales. These dependent variables are measured in Ghana New Cedis.

Independent Variables for the study were; average collection period (ACP) which is the ratio of total accounts receivables to turnover, and average payment period which is the ratio of total accounts payables to total purchases (APP).



### **3.5 DATA CODING**

As noted earlier, the data were collected from the balance sheet and the income statement of GGBL, after which various ratios were computed, and coded into variable using definitions given earlier in this chapter. The two variables were sorted based on the researcher calculations and was entered into Excel tables and later converted to an 'R' statistical data file for statistical analysis.

### **3.6 DATA ANALYSIS**

To summarize the data and describe the central tendency of the variables and variability within the values, descriptive analysis was used. Pearson correlation was used to determine whether there was a relationship between the variables. Correlation analysis is a statistical tool that was used in this study to describe the degree to which one variable is linearly related to another. Through conducting correlation analysis this study shall be able to identify the degree of association among the variables.

Multiple regression analysis was used to analyze the linear relationship between the dependent and independent variables. Maddala (1988) defines multiple regression as a model in which the dependent variable depends on two or more variables. The main strength of using multiple regression data is its ability to measure the joint effect of any number of independent variables upon one dependent variable.

#### **3.6.1 DATA ANALYSIS TECHNIQUE**

Two major statistics analysis technique were used in this study. They were:

- Descriptive statistics such as the mean, and the standard deviation to determine the trend and behavior of variables.

- Regression or ordinary least square technique to investigate the strength, direction, significance of association or relationship variables.

All statistical analysis mentioned above was carried out using a computer software program called SPSS on MS windows 7 ultimate plus MS excel and word.

The above statistical tools were used in a research methodology known as *Panel Data Multiple Regression Analysis*. The particular method was the most appropriate for the study, this was supported by James H. Stock and Mark W. Watson (2007 pg350)

### **3.7 PROFILE OF THE STUDY AREA**

Guinness Ghana Breweries Ltd was established in August 29<sup>th</sup>, 1960 and incorporated to commence business in August 23<sup>rd</sup>. 1991. In November 1990, Guinness Ghana Breweries Ltd was listed provisionally on the Ghana Stock Exchange and finally had their official listing on August 23, 1991 with a Stated Capital of twenty six million two hundred and fifty two thousand Ghana Cedis( GH(¢) 26,252,000). It has Ordinary Shares of no par value Issued at 211,338,142 and Authorized Shares of 200 million.

The company has its registered office at Kaasi industrial area in Kumasi, with postal address of post office box 1536. Kumasi, Telephone numbers (03220)263015/24878. The company Board of Directors are as follows; David Harlock (Chairman), Peter Ndegwa (Managing) and the rest are all members of the board : E. M. Boye, J. W. Acheampong (Dr.), Kwame Donkor Fordwor, Mrs. Agnes Emefa Essah, Mr. Charles Kimeria Mwangi, P. V. Obeng, Mrs. Katherine Joanna Seljeflot, Mr. Didier Francis Martial Leleu, Mr. James Kweku Inkoom, Mr. P. Ndegwa - Chairman. Peter Ndegwa - Managing. E. M. Boye, J. W. Acheampong (Dr.), Kwame Donkor Fordwor, Mrs. Agnes Emefa Essah, Mr. Charles Kimeria Mwangi, P. V. Ob-

eng, Mrs. Katherine Joanna Seljeflot, Mr. Didier Francis Martial Leleu, Mr. James Kweku  
Inkoom,

Guinness Ghana Breweries Ltd is into production of alcoholic liquor (Guinness Extra Stout,  
Star Beer, Gulder. Etc) and non-alcoholic liquor (Malta Guinness and Amstel Malta).Their  
financial Year Ends June 30 (source; [www.ibroker.com](http://www.ibroker.com)).

## **CHAPTER FOUR**

### **DATA ANALYSIS AND DISCUSSION OF FINDINGS**

#### **4.1 INTRODUCTION**

This chapter discusses the analysis of the empirical results. It begins by looking at the descriptive statistics, regression analysis and then raw data analysis.

#### **4.2 DESCRIPTIVE STATISTICS**

The descriptive statistics as shown in Tables 4.1 below has made some important observations relating to the two models that were run. It noted that, average collection period of 39.6 days was maintained by GGBL over the period. Average payment period was also 96.2 days, which was encouraging. This means that, supplies made to GGBL on credit were utilized to turn over sales cycle three times before payments are eventually made to suppliers. This reflected in a mean profitability measured by ROE of 36% as evidenced by the model 1 which was ran.

The model 2 results were not different from the above except that profitability as measured by profit margin reduced from 36% to 12.4%. This goes to highlight the importance the impact of efficient credit management have on profitability of firms. This trend was observed consistently over the period 2004 to 2012.

TABLE 4.1A MODEL 1

**DESCRIPTIVE STATISTICS**

	Mean	Std. Deviation	N
ROE	.3611	.10167	9
ACP	39.6144	35.14295	9
APP	96.2244	29.99101	9

**Source: Field Data 2013**

TABLE 4.1B MODEL 2

**DESCRIPTIVE STATISTICS**

	Mean	Std. Deviation	N
OPM	.1244	.03539	9
ACP	39.6144	35.14295	9
APP	96.2244	29.99101	9

**Source: Field Data 2013**

Tables 4.2, provides the Pearson correlation for the variables that were used in the regression model. Pearson’s correlation analysis was used to find the relationship between financial management of trade credit and ROE and OPM.

We found that, ROE is negatively correlated with average collection period and average payment period.

The negative correlation between working capital and profitability variables indicates that if collection period increases it will have a negative impact on profitability and vice versa.

We also found in model 2 that, OPM is positively correlated with average collection period and average payment period.

The positive correlation between working capital and profitability variables indicates that if collection period increases it will have a positive impact on profitability and the reverse is true.

**TABLE 4.2A**                      **MODEL 1**  
**CORRELATIONS**

		ROE	ACP	APP
Pearson Correlation	ROE	1.000	-.543	-.318
	ACP	-.543	1.000	.559
	APP	-.318	.559	1.000
Sig. (1-tailed)	ROE	.	.065	.202
	ACP	.065	.	.059
	APP	.202	.059	.
N	ROE	9	9	9
	ACP	9	9	9
	APP	9	9	9

**TABLE 4.2B MODEL 2****CORRELATIONS**

		OPM	ACP	APP
Pearson Correlation	OPM	1.000	.155	.082
	ACP	.155	1.000	.559
	APP	.082	.559	1.000
Sig. (1-tailed)	OPM	.	.345	.417
	ACP	.345	.	.059
	APP	.417	.059	.
N	OPM	9	9	9
	ACP	9	9	9
	APP	9	9	9

**Source: Field Data 2013**

**Multiple Regression Results**

A regression analysis was performed on the dependent and independent variables to check on the existence of the multi-co linearity problem. In a multiple regression model, multicollinearity exists when two independent variables are perfectly correlated with each other. The result is shown in the Table 4.3 above.

As a rule of thumb a variable inflation factor (VIF) in excess of 5 is considered an indication of harmful multi-co linearity, Zikmund et al (2010). All the VIF are less than 5 and the average VIF is 1.455 therefore it can be said that there is no multi-co linearity problem for the models.

The results of the regression analysis can therefore be interpreted with a greater degree of confidence. The Durbin -Watson statistic averaged between 1.729 and 2.476 was also used to test for autocorrelation. The Durbin- Watson value of 1.729 and 2.476 indicates that the data has no serial correlation or autocorrelation problem.

**TABLE 4.3 MODELS 1**

**MULTIPLE REGRESSION ANALYSIS RESULTS**

Model	DEP V	IND V	Slope/ Coefficient ( $\beta$ )	Sig	R <sup>2</sup>	Durbin Watson	VIF
1	ROE	ACP	-.532	.246	.295	2.476	1.455
		APP	-.020	.962	.295	2.476	1.455
2	OPM	ACP	.159	.755	.024	1.729	1.455
		APP	-0.007	.789	.024	1.729	1.455

**Sources: Field Data 2013**



The multiple regression models were highly significant. The coefficient of determination ( $R^2$ ) of 0.295 or 29.5% observed by model one (1) indicates that 29.5% of the variation in dependent variable (i.e. ROE) is partially explained by variation in the independent variables.

Furtherance to this the coefficient of determination ( $R^2$ ) of 0.024 or 2.4% observed in model two (2) indicates that only 2.4% of the variation in dependent variable (i.e. OPM) is explained by variation in the independent variables.

The above results have shown how working capital management will impact positively on the profitability of GGBL; hence effective management of that resource will have important implication on them.

The above results and findings is consistent with earlier research or studies conducted by Poutziouris, Michaelas and Soufani (2005), Lazardidis and Tryfonidis (2006), Nazir and Afza (2009), Zubiri (2010), Nobani, Abdollatif and Alhajjar (2010), Chatreji (2010), Hassan poor (2007).

### **Raw Data Analysis**

Raw data analysis was performed to find out whether there was any relationship between trade credit management and performance of GGBL operations.

**TABLE 4.4A**

**IMPACT OF AVERAGE COLLECTION PERIOD ON PROFITABILITY.**

<b>Years</b>	<b>Average Collec- tion Period (ACP)</b>	<b>Return On Equity (ROE)</b>	<b>Operating Profit Margin (OPM)</b>
2005	84.08	22%	11%
2006	30.71	35%	17%
2007	54.13	31%	17%
2008	0.01	51%	13%
2009	39.59	27%	7%
2010	24.99	49%	11%

SOURCE: Field Data 2013.

From Table 4.a,

- A reduction of 84.08 days Average Collection Period (ACP) to 30.71days resulted in an increase of 22% of ROE to 35% of ROE.
- An increase of 30.71 days ACP to 54.13days brought a reduction of 35% ROE to 31% ROE.
- A further reduction of 54.13days of ACP to 0.01days resulted in an increase of 31% ROE to 51% ROE.

From the analysis conducted on the impact of Average Collection Period (ACP) on profitability, we observed that, when average collection period reduces, it will have a positive impact on profitability and the reserve is true.

**TABLE 4. 4B**

**IMPACT OF AVERAGE PAYMENT PERIOD ON PROFITABILITY.**

<b>Years</b>	<b>Average Pay- ment Period (APP)</b>	<b>Return On Equity (ROE)</b>	<b>Operating Profit Margin (OPM)</b>
2005	125.15	22%	11%
2006	133.01	35%	17%
2007	50.51	31%	17%
2008	64.66	51%	13%
2009	90.11	27%	7%
2010	95.77	49%	11%

SOURCE: Field Data 2013.

From table 4.4b,

- An increase of 125.15 days Average Payment Period (APP) to 133.01 days of APP resulted in an increase of Return on Equity (ROE) of 22% to 35% ROE.
- A reduction of 133.01 days of Average Payment Period (APP) to 50.51 days resulted in a decrease of 35% of ROE to 31% ROE.
- An increase of 50.51days of Average Payment Period (APP) to 64.66 days (APP) resulted in an increase of 31% of ROE to 51% ROE.

From the analysis conducted, we observed that when Average Payment Period increases, it will have a positive impact on profitability and vice versa

## CHAPTER FIVE

### FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 INTRODUCTION

In this chapter, we consider the key findings of the study and their implications, followed by conclusions and the researchers' recommendations. In this study the impact that financial management of trade credit have on profitability was investigated. Key findings of the study are summarized below.

#### 5.2 DESCRIPTIVE STATISTICS

The descriptive statistics noted that, average collection period and average payment period of 39.6 and 96.2 days were maintained by GGBL. The performance in terms of profitability evidenced by this style of working capital management was ROE, 36% and OPM 12.4%. This was impressive; however, it goes to highlights the importance of how efficient financial management of trade credit can impact positively or otherwise on profitability. This trend was observed consistently over the period 2004 to 2012.

The study made some interesting revelations resulting from the Pearson's correlation analysis. We found that, ROE was negatively correlated with ACP and APP. The negative correlation between working capital and profitability variables indicates that if working capital increases it will have a direct negative impact on profitability and vice versa. We also found that, OPM positively correlated with ACP and APP. The positive correlation between working capital and profitability variables indicates that if working capital increases it will have a direct positive impact on profitability and vice versa.

The multiple regression models were highly significant. The coefficient of determination ( $R^2$ ) of 0.295 or 29.5% observed by model one (1) indicates that 29.5% of the variation in dependent variable (i.e. ROE) is explained by variation in the independent variables. Furthermore to this the coefficient of determination ( $R^2$ ) of 0.024 or 2.4% observed in model two (2) indicates that 2.4% of the variation in dependent variable (i.e. OPM) is explained by variation in the independent variables.

A regression analysis performed on the dependent and independent variables to check on the existence of the multi-co linearity problem, showed non existence of that. In a multiple regression model, multicollinearity exists when two independent variables are perfectly correlated with each other.

As a rule of thumb a variable inflation factor (VIF) in excess of 5 is considered an indication of harmful multi-co linearity, Zikmund et al (2010). All the VIF are less than 5 and the average VIF is 1.121 therefore it can be said that there is no multi-co linearity problem for the models.

The results of the regression analysis could therefore be interpreted with a greater degree of confidence. The Durbin -Watson statistic was also used to test for autocorrelation. The Durbin- Watson value of 2.425 and 2.549 indicates that the data has no serial correlation or autocorrelation problem. The above results have shown how working capital management will impact positively on the profitability of GGBL; hence effective management of that resource will have important implication on profitability.

The findings were consistent with earlier research or studies conducted by Poutziouris, Michaelas and Soufani (2005), Lazardidis and Tryfonidis (2006), Nazir and Afza (2009), Zubiri (2010), Nobani, Abdollatif and Alhajjar (2010), Chatreji (2010), Hassanpoor (2007).

### **5.3 RAW DATA ANALYSIS**

From the raw data analysis, it was noted that, both average collection period (ACP) and Average Payment Period (APP) have direct relationship with GGBL performance. The observation made include,

- Any increase in average collection period result in a decrease in profitability and the reserve is true.
- Any decrease in average payment period result in a decrease in profitability and the reserve is true.

### **5.4 CONCLUSIONS**

The study investigated the association between financial management of trade credit and profitability. Using secondary data with GGBL as evidence, it was noted that ACP and APP were positively related with Operating Profit Margin (OPM), but negatively related to return on equity.

The study was observed to be consistent with other studies conducted by Poutziouris, Michaelas and Soufani (2005), Lazardidis and Tryfonidis (2006), Nazir and Afza (2009), Zubiri (2010), Nobani, Abdollatif and Alhajjar (2010), Chatreji (2010), Hassanpoor(2007).

## 5.5 RECOMMENDATIONS

- Policy makers should have the interest in promoting efficient management of working capital to facilitate performance management.
- It should therefore be the priority of top management of every firm to manage their trade credits prudently in order to remain profitable and competitive. Hence managers should know how and what working capital structure will influence their performance.

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## APPENDIX I

### REGRESSION

#### MODEL 1

#### Descriptive Statistics

	Mean	Std. Deviation	N
ROE	.3611	.10167	9
ACP	39.6144	35.14295	9
APP	96.2244	29.99101	9

SOURCE: Field Data 2013.

#### Correlations

		ROE	ACP	APP
Pearson Correlation	ROE	1.000	-.543	-.318
	ACP	-.543	1.000	.559
	APP	-.318	.559	1.000
Sig. (1-tailed)	ROE	.	.065	.202
	ACP	.065	.	.059
	APP	.202	.059	.
N	ROE	9	9	9
	ACP	9	9	9
	APP	9	9	9

SOURCE: Field Data 2013.

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.543 <sup>a</sup>	.295	.061	.09854	.295	1.258	2	6	.350	2.476

SOURCE: Field Data 2013.

a. Predictors (Constant), X2, X1

b. Dependent Variable: Y1

ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.024	2	.012	1.258	.350 <sup>a</sup>
Residual	.058	6	.010		
Total	.083	8			

SOURCE: Field Data 2013.

a. Predictors: (Constant), X2, X1

b. Dependent Variable: Y1

model	Unstandardized coefficients		Standardized coefficient	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1(constant)							

SOURCE: Field Data 2013.

**a. Dependent Variable: Y1**

Collinearity diagnostic<sup>a</sup>

Model	Dimen- sion	Eigenvalue	Condition In- dex	Variance Proportions		
				(Constant)	X1	X2
1	1	2.712	1.000	.01	.03	.01
	2	.256	3.254	.08	.74	.01
	3	.032	9.148	.91	.23	.98

SOURCE: Field Data 2013.

a. Dependent Variable: Y1

Residuals Statistics<sup>a</sup>

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.2604	.4242	.3611	.05525	9
Residual	-.11491	.10635	.00000	.08534	9
Std. Predicted Value	-1.823	1.142	.000	1.000	9
Std. Residual	-1.166	1.079	.000	.866	9

SOURCE: Field Data 2013.

a. Dependent Variable: Y1

Regression

MODEL 2

Descriptive Statistics

	Mean	Std. Deviation	N
OPM	.1244	.03539	9
ACP	39.6144	35.14295	9
APP	96.2244	29.99101	9

SOURCE: Field Data 2013.

Correlations

		OPM	ACP	APP
Pearson Correlation	OPM	1.000	.155	.082
	ACP	.155	1.000	.559
	APP	.082	.559	1.000
Sig. (1-tailed)	OPM	.	.345	.417
	ACP	.345	.	.059
	APP	.417	.059	.
N	OPM	9	9	9
	ACP	9	9	9
	APP	9	9	9

SOURCE: Field Data 2013.

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.155 <sup>a</sup>	.024	-.301	.04038	.024	.074	2	6	.930	1.729

SOURCE: Field Data 2013

a. Predictors: (Constant), APP, ACP

b. Dependent Variable: OPM



ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.000	2	.000	.074	.930 <sup>a</sup>
	Residual	.010	6	.002		
	Total	.010	8			

SOURCE: Field Data 2013.

a. Predictors: (Constant), X2, X1

b. Dependent Variable: Y2

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.119	.049		2.422	.052	
	X1	.000	.000	.159	.327	.755	.688
	X2	-8.437E-6	.001	-.007	-.015	.989	.688

a. Dependent Variable: Y2

Collinearity Diagnostics<sup>a</sup>

Model	Dimen- sion	Eigenvalue	Condition In- dex	Variance Proportions		
				(Constant)	X1	X2
1	1	2.712	1.000	.01	.03	.01
	2	.256	3.254	.08	.74	.01
	3	.032	9.148	.91	.23	.98

SOURCE: Field Data 2013.

a. Dependent Variable: Y2

Residuals Statistics<sup>a</sup>

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.1184	.1343	.1244	.00549	9
Residual	-.05449	.04729	.00000	.03497	9
Std. Predicted Value	-1.107	1.797	.000	1.000	9
Std. Residual	-1.350	1.171	.000	.866	9

SOURCE: Field Data 2013.

a. Dependent Variable: Y2

APPENDIX II GGBL DATA										
2004 TO 2012							DEP VAR		IND VAR	
YR	DRS	Equity	Sales	CRS	O.profit	PURCH	OP/E	OP/SALES	ACP	APP
									DR/SALES*365	CR/PURCH*365
							Y1	Y2	X1	X2
2004	46540	62165	164441	112589	22277	303042	0.36	0.14	103.30	135.61
2005	28758	64394	124848	122514	14061	357308	0.22	0.11	84.08	125.15
2006	88141	519382	1047599	156907	182833	430591	0.35	0.17	30.71	133.01
2007	118567	438153	799452	80554	134008	582105	0.31	0.17	54.13	50.51
2008	15617	134743531	527211260	14761	68597247	83329	0.51	0.13	0.01	64.66
2009	21798	54065	200968	34914	14798	141429	0.27	0.07	39.59	90.11
2010	14136	45163	206499	37320	21986	142230	0.49	0.11	24.99	95.77
2011	5636	45696	244293	37043	20681	172577	0.45	0.08	8.42	78.35
2012	9051	138957	292318	49078	40974	192923	0.29	0.14	11.30	92.85