

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI,  
GHANA**

**KNUST**

**THE EFFECT OF WORKING CAPITAL MANAGEMENT ON THE PERFORMANCE  
OF COMMERCIAL BANKS IN GHANA**

**By**

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**A Thesis submitted to the Institute Of Distance Learning, Kwame Nkrumah University of  
Science And Technology in partial fulfilment of the requirement for the degree of**

**MSC ACCOUNTING AND FINANCE**

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## DECLARATION

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Kwame Nkrumah University of Science and Technology, Kumasi or any other educational institution, except where due acknowledgment is made in the thesis.

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## DEDICATION

I dedicate this project to God Almighty our creator and strong pillar. He has been the source of my strength throughout this program and on His own wings only have I soared. I also dedicate this work to my family and friends for their support.



## ACKNOWLEDGEMENT

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## ABSTRACT

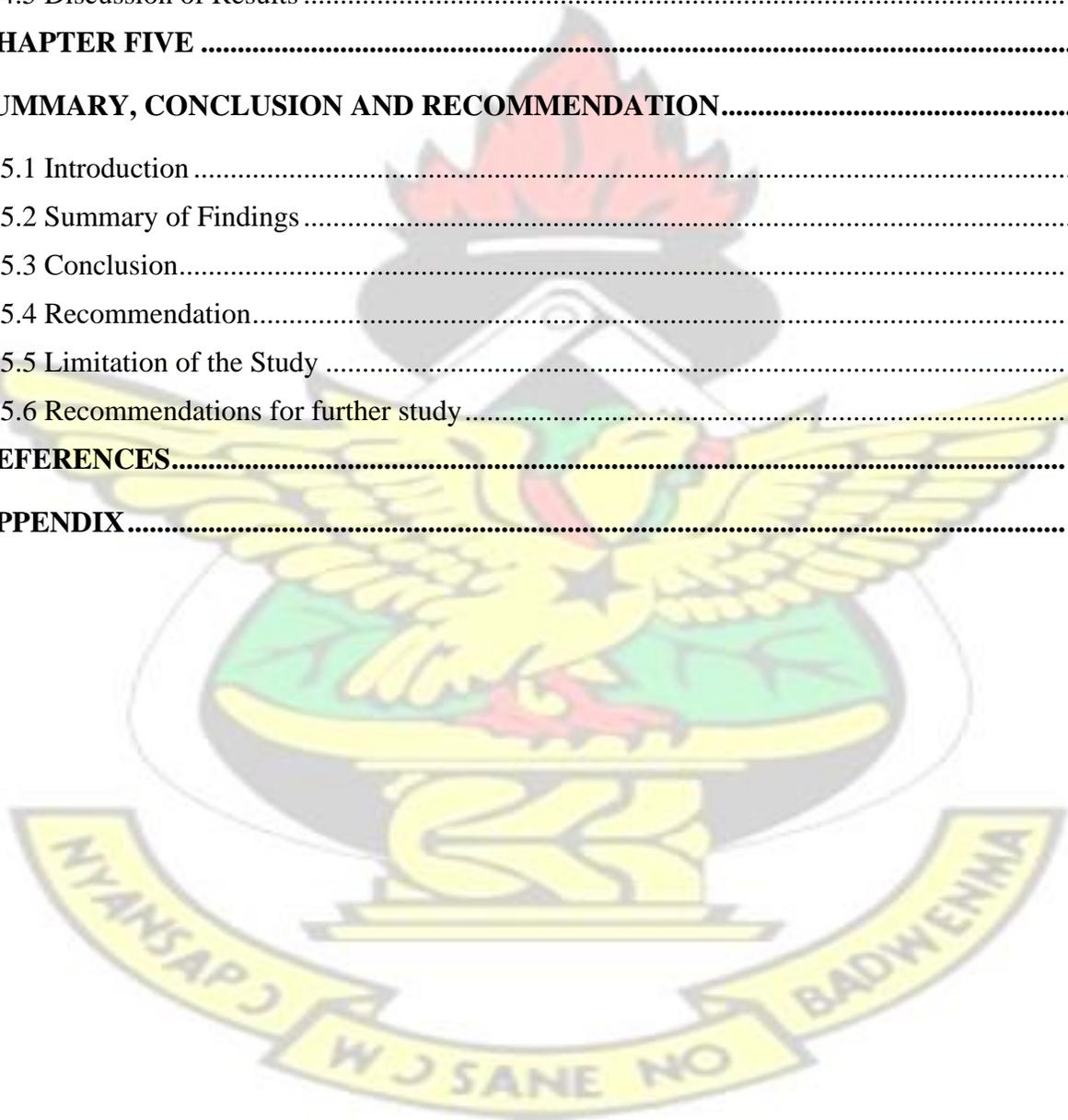
The study examined the effect of working capital management on the performance of commercial banks in Ghana with CAL Bank as a case study. The objectives of the study sought to examine the effect of working capital on the performance of the bank, the effect of accounts payable management on performance of the bank and the impact of operating cash flow on the profitability of the bank. The explanatory research design was adopted for the study. Convenience and purposive sampling technique were adopted in selecting three (3) local banks for the study. The three local banks were Agricultural Development Bank, Ghana Commercial Bank and Cal Bank. The study used a ten (10) year secondary data extracted from the audited end of year financial reports of the three (3) local banks spanning the period 2009 – 2019. Descriptive statistics, Pearson correlation and panel data regression were adopted in analyzing the data. The results of the study indicated the independent variables of the study did not have a significant influence on the performance of the bank except net interest income and acid test ratio. Account payable management had a negative but insignificant influence on the performance of the bank. The results of the study demonstrated that cash flow from operating and investing activities had a negative effect on the banks profitability while financing cash flow had a positive effect. The study recommends that bank management take the necessary measures to use its idle cash and banking balances to meet its short-term liabilities and operating costs.

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## LIST OF ABBEVIATIONS

WCM Working Capital Management

ROA Return on Assets

ROE Return on Equity

CCC Cash Conversion Cycle

LDR Loan Deposit Ratio

AR Acid Ratio

AP Account Payable

NNI Net Interest Income

MPR Monetary Policy Rate



# CHAPTER ONE

## INTRODUCTION

### 1.1 INTRODUCTION

This chapter commences with the introduction to the study. It starts from the background of the study. The chapter continues with the problem statement and questions on research based on the study's purpose. This section also presents the significance of the study and follows on from the scope and organization of the entire study.

### 1.2 BACKGROUND OF THE STUDY

Working capital management is an essential component of the corporate strategy in creating value for a company. It is part of the financial decisions a finance executive of an organization should consider in addition to its capital budgeting and capital structure (Ross et al, 2010). Banking serves as a crucial element in the nation's economic development. It is both the backbone and the basis for the country's development. Its main activities are to accumulate temporary idle public money to increase the expenditure to others (Yahaya & Bala, 2015). The ineffective management of working capital not only diminishes earnings but also can eventually lead to financial crises and distress in a company. A research or study in the management of working capital in the banking sector is therefore extremely important. Padachi (2006) pointed out the importance for the financial health of all size enterprises in the management of working capital. An organization's performance is essential to management since it demonstrates the company's ability to manage economic resources to develop a competitive advantage (Mowen, Hansen & Heitger, 2011). Naser and Mokhtar (2004) argued that companies which imitate high financial performance portray that management effectively and efficiently use resources, which is evident as a result of sales or stock price growth. According to Deloof (2003) an organization's working capital is deemed as the funds

needed by an organization for its everyday operations. Talonpoika et al. (2014) have described net working capital as existing assets with less existing liabilities. Working capital comprises inventories, accounts receivables and liabilities, whereas working capital for a financial organization comprises net working capital connected to operations, such as cash (Knauer & Wohrmann, 2013). Current assets and current liabilities of the organizations comprise the management of working capital (Aminu & Zainudin, 2016). In fact, the efficient management of working capital is an essential necessity for a business enterprise (Bana, 2012; Mukhopadhyay, 2004). The efficient and effective management of working capital is a prerequisite for an organization's financial success (Ghosh & Maji, 2004).

Working capital means investment by a company in short-term assets or resources that a company has to manage its day-to-day activities. Beaumont and Begemann (1997) stressed that in the management of working capital, liquidity and profitability are the main concepts to be considered. They point out that the trade-off between profitability and liquidity exists. Finance managers must be able to plan and control both current liabilities and existing assets in a manner which reduces risk and enable the organization to perform their short-term obligations necessary to better manage the organizations' working capital (Chakraborty, 2008). A company which aims at profit maximization must maintain an equilibrium between current liabilities and current assets which would help establish a liquidity-profit relationship (Ani, Okwo & Ugwunta, 2012). The organization may experience major problems by maximizing profit on the expense of liquidity and vice versa. Organizations can therefore reduce risk and improve overall performance through their understanding of working capital management dynamics (Nazir & Afaz, 2009). The effective and efficient management of working capital influences the company's survival, operational continuity and guarantees its solvency and profitability (Evcı & Sak, 2018).

Commercial banks are financial providers which contribute an important part in the economic and financial life of the country. Commercial banks have a key role to play in economic development as this role comes in the form of savings and investments in the available financial institutions. They also offer opportunities for the growth in the local economy through deposits, savings and investments in each industry, business and organization. By investing the savings and deposits collected in productive ventures, they help to build capital. Commercial banks also provide customers with numerous services with the aim of ensuring the improvement of the economic and social livelihood of the community. In order to pay the depositors on demand or when the amounts credited to the customers are due, a bank always must have cash balances in place. They also must retain a proportion of their assets in cash-friendly forms. This is the only way to maintain trust in the banking system. If there is insufficient funds invested in inventories, cash and trade debts, the banks will be challenged to meet its operating costs (Napompech, 2012).

The lifeblood of the organization is working capital. The organization should always be prepared to meet its obligations in order to maintain public confidence, especially customers. The important aspect of financial management is working capital management. It's the vitality and nerve center for all kinds of businesses because no business can function smoothly without proper control of the capital of the organization (Joshi, 2013). For daily operations of any organization, management of current assets and current liabilities is necessary. It consequently plays a key role in organizational success and failure in handling the part of the assets that is transformed in a manufacturing cycle from one form to another. Therefore, regardless of the nature of business, the role of working capital management is more important for all companies. Deloof (2003) argues that the management of working capital has a major influence on companies' profitability and cash. Efficient working capital accelerates payments of enterprises short-term obligations to clients or

suppliers (Peel & Wilson, 1996). Proper management of funds reduces working capital's tendency to become a source of small business failure (Berryman, 1983). It guarantees solid liquidity for long-term growth and profit-making (Wignaraja & O'Neil, 1999). It ensures an acceptable link between the working capital components of the companies to ensure an efficient mix that guarantees adequate capital (Osioma, 1997). Banking institutions sometimes find financing their business difficult. This financial problem also affects the management of working capital of the individual banks that is intended to influence their profitability levels (Goddard et al. 2004).

A survey of current working capital management practices is required to capture the most recent developments in this important aspect of business activities. Working capital management is an important aspect of corporate financial management, as it impacts the profitability and liquidity of all companies directly. Liquidity is important to banks because it helps them to quickly access their resources to meet their financial obligations. Therefore, the impact of working capital management and its influence on profitability or performance of companies is crucial to know and understand.

### **1.3 STATEMENT OF PROBLEM**

A company is responsible for the success of effective working capital management because it enables the firm to fulfill its short-term maturing obligations (Reddy, 2015). Liquidity is a prerequisite for ensuring that companies can meet their short-term obligations and ensure their continuous flow from a lucrative enterprise. A company that makes no efficient use of short-term assets will receive sub-optimal returns on such assets and thereby suboptimal profit when that company fails to manage its short-term liabilities well. It may end up in debts that can have a lasting impact on its performance and cannot meet its obligations when necessary (Eljelly, 2004). Researchers studied different aspects of working capital and tried to explain how they affect the

various objectives of the company (Aregbeyen, 2013; Goel, Bansal, & Sharma, 2015; Kiarie, 2013; Viskari et al. 2012). The main focus of existing studies is the role of working capital management in improving the performance of companies in the non-financial sector. The needs of credit facilities, the promotion of saving habits among the populace and the promotion of economic activities in the country should be satisfied by banks and microfinance institutions. The solvency of banks and microfinance institutions depend, however, on whether their working capital is efficiently and effectively being used by the management. One of the primary goals of working capital management is to ensure that organizations have adequate and consistent cash flow to finance their operations. The Bank of Ghana has mandated banks and micro-finance institutions to maintain certain liquidity levels to meet Bank of Ghana regulatory requirements and to comply with customer withdrawals.

In Ghana, some studies have studied the relationship between working capital and performance. These studies have focused on manufacturing firms. Korankye & Adarquah, (2013) found results revealing that working capital cycle significantly affects a firm's profitability negatively. Agyei-Mensah (2012) conducted a study on working capital management practices of SMEs in Ashanti Region and found that SMEs are not good at managing their working capital. On listed firms Agyemang & Asiedu (2013) examined the impact on the profitability of manufacturing firms in the management of working capital. The study showed that the major component of working capital management like stock dates, payable accounts, and the cash conversion cycle affect manufacturing companies' profitability. In their study, Mawutor & Awah (2014) assessed the effectiveness and profitability of Ghana-based banks using listed banks. The survey revealed that the independent variables, such as liquidity level, leverage, productivity, credit risk and bank size, account for 60.74 percent of changes in banks' profitability. Despite these studies, little or not

much is known in relation to working capital management in Ghana about the banking industry. Though some banks had to liquidate other existing banks had their profitability levels show slow growth (BoG, 2010). Although, poor practices in working capital management can play a significant part in bank performance and failures, there has not been enough empirical studies to support this assertion. There are empirical evidences based on studies in more advanced countries that use data from this part of the world. Chatterjee (2010) examined the profitability impact of managing working capital in London-listed companies during 2006-2008. The results show that the connection between working capital management and profitability is negative. The Bloomberg database of 172 listed companies from Malaysia for the period 2003-2007 was studied by Mohamad and Saad (2010). They found that the components of working capital are negatively related to the performance of a company.

The questions that are often evidenced are whether these studies are applicable to the Ghanaian context. There is a gap between theoretical changes in the management of working capital and what commercial banks actually use in practice. The working capital management elements and their consequences on the profitability trends of Ghana banks were not adequately addressed and this study therefore takes advantage of the absence of literature on the relationship between working capital management and performance among Ghanaian banks. The purpose of this study is to examine the effect of working capital management on the performance of commercial banks in Ghana with CAL Bank as a case.

## **1.4 OBJECTIVES OF THE STUDY**

### **1.4.1 General Objective**

The general objective of this study is to examine the effect of working capital management on the performance of commercial banks in Ghana with CAL Bank as a case

The objectives of the study are:

1. To examine the effect of working capital on the performance of the bank
2. To examine the effect of accounts payable management on the performance of the bank
3. To examine the impact of operating cash flow on the profitability of the bank

## **1.5 RESEARCH QUESTIONS**

The objective of the study will be to seek answers to the following questions;

1. What is the effect of working capital on the performance of the bank?
2. What is the effect of accounts payable management on the performance of the bank?
3. What is the impact of operating cash flow on profitability of the bank?

## **1.6 SIGNIFICANCE OF THE STUDY**

The study provides empirical evidence on the working capital management for scholars and researchers who will find this study useful if they seek to use its findings as a basis for further studies on working capital management, especially on financial institutions in Ghana and other developing economies. For banks, this information is important as it will inform them on formulation of policies concerning working capital management. The results of this study is expected to inform banks on efficient resource allocation given their funding sources. This study is also expected to provide information that will enable banks strategically plan their lending so as

to remain profitable in a competitive environment. Policy makers and regulators will benefit from this study as it aims to provide information that can inform policy decisions on working capital management. Finance managers can plan their working capital strategies using policies to increase profitability based on working capital management.

### **1.7 SCOPE OF THE STUDY**

The focal point of the study were on 3 local banks in the Ghanaian banking environment. The study will analyze the financial statements of 3 local banks for the period 2009 to 2019.

### **1.8 ORGANIZATION OF THE STUDY**

The study will be organized into five chapters. Chapter one will highlight the background to the study, problem statement, objectives of the study, scope, significance and limitations of the study. Chapter two presents review related literature to position the study in the appropriate theoretical framework. It also examines findings of related studies on working capital management and performance of organizations. Chapter three will comprise the methodology to be used for the study detailing the sources of data, the variables to be used in the study and the model specification. Chapter four presents an analysis and discussion of the results. Finally, chapter five presents the key findings of the study, conclusions and recommendations for future study.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 INTRODUCTION

This chapter examines and presents relevant literature on the management of working capital. The concept of working capital and the idea of managing working capital are further discussed. The chapter also presents working capital management components and approaches to the management of working capital. Also discussed and presented are the theoretical and empirical working capital management studies.

#### 2.2 CONCEPTUAL FRAMEWORK

##### 2.2.1 Concept of Working Capital

The concept of working capital was first evolved by (Marx, 1867). Before completing the goods on which he worked, Marx used the term variable capital meaning expenditure on salaries advanced for workers. He distinguished it from the constant capital which he saw only as dead labor, i.e. expenditure on raw materials and other labor produced manufacturing instruments. The aim of working capital management is to maintain the net capital level that maximizes the company's wealth. Khan and Jain (2007) defined working capital as the material locked funds, work being undertaken, goods, receivables and the equivalent cash and money. They thus defined working capital as capital invested in current assets, which are assets convertible into cash in a short time and the cash received is reinvested into assets investment. Van Horne and Wachowicz (2004) avers working capital represents the amount of current assets that have not been supplied by current short term creditors. Chandra (2008) regards working capital as the surplus in current assets provided by long-term lenders and stockholders. Working capital refers to the capital a

company needs to operate, i.e. short-term company financing. As a result, working capital properties are so large that they do not earn interest (for example, capital attached to inventory). It is therefore important for businesses to manage working capital levels well in order to ensure that the company delivers sufficient profit amounts. Working capital consists of net sums of current assets and is often called networking capital, less the current liabilities (Penman, 2013).

Working capital can be seen from two main viewpoints: investing the company in short-term assets such as cash, receivable, inventory and other items listed as the company's current account assets that is required for the business to operate normally and investing in the business's long-term assets such as plants, machinery, land, buildings, etc. Companies need building, renovation, mobilization, software, appliances or machinery capital. Capital is also often used by companies to pay down on commercial property. For every business to succeed, working capital is essential (Mukhopadyay, 2004). According to Kavitha (2007) in order to conduct business properly, a company needs to maintain adequate working capital. Working capital may be viewed as a center of business, but it can hardly flourish and survive when it becomes weak. No company can succeed without adequate working capital.

### **2.2.2 Concept of Working Capital Management**

According to Frimpong (2010) management of working capital refers to policy guidelines to financing, investments and management of a company's net current assets. If businesses fail to establish the accurate level of working capital, it results in enormous losses and ultimately lead to insolvency. The efficient management of working capital guarantees that companies always have sufficient liquid assets. The management of working capital deals with deciding on the architecture and financing of the current assets of companies. Working capital management is the ability of an

organization to effectively control existing assets and liabilities in order to maximize its returns on assets and minimize the payment of its liabilities (Adelman & Marks, 2007). According to Mawhiraju (1999), working capital management includes management of current assets and obligations consisting of the optimization, within a partial equilibrium, of the existing level of assets. Working capital management consists of the link between a company's short-term assets and its short-term obligations. Van Horne (1995) defined working management of capital as the management of current assets in the name of cash, marketable securities, debt, employee advances and inventories. Osisioma (1997) has shown that good working capital management guarantees that the various parts of an enterprise's working capital have an acceptable relationship to make an efficient mix that would provide adequate capital for the company. The management of working capital should therefore ensure that the desired quantities of each working capital component are available for management. Practice of working capital management refers to the core principles and directives that companies use to control their working capital. If well-considered working capital management practices are employed, financial risks can be minimized and overall performance improved (Nazir & Afza, 2009).

Pandey (2010) considered practices in the management of working capital as ways in which companies finance their existing assets. Proper management of working capital ensures that the company has enough cash to meet its operating costs and short-term liabilities (Waithaka, 2012). Brigham, et al. (1999) views the management of working capital as a management of current asset investments and financing current assets, and includes setting and implementing working capital policy on a day-to-day business operations to meet its objectives and goals, such as maximizing shareholder wealth, competitive advantage, and growth. Brigham et al. (1999) and Cooper et al (1998) states that it is clear that the business needs to hold and administer different working capital

levels that are consistent with its performance criteria if the performing criteria such as liquidity, solvency/insolvency, efficiency, profitability and economic added value are considered. Vineet & Sukhdev (2013) describes working capital management from the point of view of efficiency and can be measured and accomplished through efficiency in cash conversion.

According to Aravindan and Ramanathan (2013) the working capital management deals with decision-making in the context of liquidity-profit trade. A business with poor management of working capital may risk locking surplus capital amounts (e.g. surplus stocks) while a shortage of working capital may damage operating flows. Working capital management focuses on three main current assets for the financial manager: inventories, accounts receivables and cash equivalents, while the main current liability is accounts payable. For many companies the management of current assets is important, because they often account for most of the total assets of the firm (Brealey et al. 2013; Kieschnick et al. 2013). However, how such assets are handled in the interests of optimized working capital depends on a number of factors such as the nature of the enterprise and the seasonal variations which may affect product requirements (Aravindan & Ramanathan, 2013). In addition, the capital cost in terms of the opportunity cost must be taken into account in reference to optimal working capital levels (Brealey et al. 2013).

### **2.2.3 Working Capital Management Components**

The core focus of management of particular current assets should be to optimize investments of the company in these assets. The components of a firm's working capital include the following:

### **2.2.3 Cash and Marketable Securities**

Cash is the current major asset for the company's operations. Cash is the primary input needed to ensure that the company continues to operate; it is also the last output expected to be realized by selling the company's service or product. Cash consists of time deposit in the form of certificate of deposit, currencies and demand deposit (Copeland et al, 2005). Commercial paper being a money market issued security to service short term debt obligations also serves as cash and marketable security. The other securities are bills and bonds from the government treasury. Effective management of working capital drive the generation of more cash, improve profits and decrease risks. Accounts and equity are the main sources of cash. According to Skousen (1984), investments in marketable securities are eligible for reporting as temporary investment, if there are ready markets to convert these securities into cash, and if cash is required, management intends to sell them. Zikis (2009) has stated that a few days after acquiring or holdings of marketable securities, they can be converted into cash. However, they are classified correctly as temporary investments in both cases, as long as management intends to sell them when cash is necessary. Cash management concerns the management of cash flows into and out of the company, cash flows in the company and cash balances held by the company at a time through deficits and/or investments in excess cash. Therefore, the principal goal of cash management is to maintain adequate cash control, with a view to keeping the company functional and profitable at the end of the financial year (Pandey, 2010). The business should adopt a suitable working capital management strategy to address the uncertainties regarding cash flow predictions and the lack of synchronization between cash revenue and payments. Fazzari and Petersen, (1993) argues that cash is a stock that is extremely important for the smooth operation of the company. No doubt a business may earn interest by investing cash in some marketable securities, but in paying its liabilities, it needs cash

and has to pay some transaction costs if it is to convert marketable securities into cash. Thus, there is a fair opportunity that marketable securities costs may be greater than their advantage (Brealey, Myers & Allen, 2006).

### **2.2.3.2 Account Receivables**

The management of account receivables is an important aspect of company finance because they directly influence the company's liquidity and profitability (Pandey, 2010). The core principles of accounting for receivables management that the company needs to adhere are the managing of the accounts receivables, the evaluation of potential customers' ability to pay according to criteria like customer integrity, financial soundness, collateral to be used and current economic conditions (Schaum, 2011). Account receivables serves as a temporary debt arising from goods sold on credit to customers and recorded in the salesperson's account as receivables and also as a payable in the buyers account (Brigham, Houston & Eugene, 2009). Sundgren and Schneeweis (2010) report that the optimal account receivable for an enterprise maximizes a firm's value when the marginal return rate of the investment is equal to the incremental cost of funds (the marginal cost of capital) used to fund the investment. Current assets in the balance sheets of several companies constitute a substantial portion of the receivable, which highlight the importance of managing and financing this asset type because it plays a vital role in the performance, risk and value of the company (Smith, 1980). Sharma and Kumar (2011) explains the significance of the management of debtors as crucial to the decision-making process related to investments of debtors to the business. Therefore, the goal of debtor management is to boost revenues and to reduce the risk that debtors will have on the business with regards to the receipt of monies owed. If debtor management is not properly managed well, it may be stressful to maintain the working capital ratio, which leads to increased capital input or debt needs (Hopkins, 2009). The importance of accounts receivable was

underlined by Hendriksen and Breda (1992) in a study. They indicated that a company gives commercial credit to prevent competition and to attract potential customers to purchase their goods and services on satisfactory terms. The firm is reported to have granted business credit to clients, when it sells its products or services and it receives no money for it immediately. The level of account receivables thus depends on a conservative, moderate or aggressive policy adopted by the management of working capital of the business organization (Ross et al. 2008). Receivables constitute a substantial portion of current assets of several firms. In regards to working capital management, the receivables are very important components of current assets, and the average amount of receivable turnover in days (RTD) is required for converting the receivable of the company into cash, as customer payments are very vital for running enterprises in the cash conversion cycle. In addition, it's further stated that managerial efficiency could be determined in days on the basis of the turnover of debts in the granting and control of loans. This would identify debtors' patterns based on the liquidity of the debtors which can be determined. If the company takes longer to collect debts, the company's profitability will decline (Raheman et al. 2011). Copeland et al (2005) have noted that since large amounts are attached to commercial debtors, careful evaluation and appropriate policies on working capital are needed to achieve the company's financial objectives and goals.

### **2.2.3.3 Inventories**

According to Ballon (2004), inventories are defined as raw materials, supplies, components, process and finished goods that appear in many places across the company's production and logistics channels. An important and worthwhile asset is the inventories of a business. It is a major portion of a company's total current assets. The inventory covers a large range of items intended for procurement, consumption and sale in ordinary business. It encompasses the entire range of

items, from material input to finishing product output. Singh (2008) studied the connection between stock management and management of working capital and highlights the importance of stock management. He believes that under-managed companies can cause major problems that destroy long-term profitability and the possibility of survival. In contrary, a company is able to reduce its inventory to an optimum level with good inventory management that does not negatively impact production and sales. According to Raheman and Mohamed (2007), companies taking a longer duration in selling their inventory do not turn stocks into sales which in effect diminishes the profitability of such companies.

#### **2.2.3.4 Accounts Payable**

Account payable is also an ingredient of working capital. It does not cover all the resources of the organization, rather, they tend to encompass outstanding amount owed to suppliers and vendors. Effective management of accounts payable helps businesses reduce their cash business cycle, but implicitly costs discount when early reimbursements of invoices are offered (Padachi, 2006). Account payable for the goods, service inventories and supplies purchased by companies is a payment to vendors. A merit of sales business credit is that the company can reduce certain investments in the management of working capital and save some resources (Damodaran, 1997). Ozkan and Ozkan (2004) avers that account payable is the cheapest and easiest way to finance an enterprise. In order to buy certain items for which the payment must be made by a specified date, accounts payable are generated. Account payable accounts are part and benefits all companies, e.g. they are available to all companies irrespective of the size of the company and a cash discount can be brought in for prior payment (Arnold, 2008). Cash flow and cash management of the company has an impact on the accounts payable. It's challenging to manage short-term liabilities because businesses usually fund short-term liabilities. Temporary short-term finance is used to finance

transient cash flow shortfalls, such as seasonal cash flow. Some sources also mention short-term permanent borrowing, which is continuously used by firms and refinanced with short-term debt as they develop. Short term financing is beneficial, as the interest costs of short-term debt are lower than long-term debt (Scherr, 1989). The risk of maximizing the payable amount through a longer credit period from the supplier lies in the fact that companies cannot receive a discount from their suppliers or products of bad quality or service from suppliers, which may ruin their relationship with suppliers. Lastly, the profitability of the company (Ganesan, 2007). Managers can help ensure that account payable management is effectively and efficiently managed as this encompasses having a policy on accounts payable, the implementation of the policy and the monitoring of the results to achieve desired results (Sanger, 2011).

#### **2.2.3.5 Cash Conversion Cycle**

The cash conversion cycle measures the efficiency of a management company and as a result, its overall health. The calculation measures how fast a company can convert cash from stocks and creditors to sales and debtors and then to cash again (Njoku, 2017). Gill et al (2010) argue that the cash conversion cycle is a popular work capital management action computed in retail day sales in receipts, plus day sales in stock minus day payable in receipts. This cycle basically indicates how many days a cash company has to spend in accordance with its current business cycle (Fried et al, 2003). According to Pouraghajan and Emamgholipurarchi (2012), by reducing its cash conversion cycle, management of a company could increase their company's profitability. The difference between short-term inflows and outflows can be filled either by borrowing, or by holding a cash or marketable securities liquidity reserve. Alternatively, the inventory, receivable and payable periods can be reduced by changing (Ross, Westerfield & Jordan, 2008). Positive or negative cash cycles could be useful indicators showing how most companies are processing their

financial businesses and thus need to finance inventories and receivables. The financial cycle is positive. More funding is needed the longer the cash cycle. In addition to this, early-warning changes in the cash cycle of the company are often monitored. A cycle extension may show that the company finds it difficult to move stock or collect debts. Such issues can be masked by an increased payable cycle at least in part, so that both are monitored (Ross et al, 2008).

There is a direct connection between working capital components and cash conversion cycle as cash conversion cycle measures the amount of days required to receive payments from sale of investments or stocks of goods. Therefore, the cash conversion cycle can serve as a medium to measure changes in stock, account payable and account receivable to achieve and maintain appropriate levels (Shin & Soenen, 1998; Nobanee, 2009). The cash conversion model is directly linked with a company's supply process and not generally with investments (Gill et al. 2010). The customary understanding of the CCC is that the profitability of a company can be improved by following the model as working capital is handled more efficiently (Nobanee, 2009). However it is also possible to use the CCC directly. If the cycle has been tight, a deal can be made, since some departments in the company can have problems, such as sales and customer relations. When focusing more on reducing CCC, it may not be possible to satisfy some customers (Shin & Soenen, 1998). Therefore it is not as easy to link a shorter CCC to higher profitability, and findings cannot be ascertained rapidly (Grosse-Ruyken, Wagner & Jonke, 2011).

## **2.2.4 Approaches to Managing Working Capital**

### **2.2.4.1 The Aggressive Approach**

The aggressive approach suggests that firms would achieve higher rates of profit by taking on the form of current assets if they keep a relatively small portion of total assets (Nwankwo & Osho,

2010). Firms using this approach use short-term debts to finance all of their existing assets. This can support production and sales only at a low level. Short-term liabilities are more risky than long-term. Potential returns rise due to the low costs of these debts, but the risk to the company increases because of the risk of fluctuating interest rates. A business enterprise may adopt a low percentage of the total assets as an aggressive working capital management policy, or may also use a high level in the form of current liabilities as a share of total liabilities in financing the decisions of the company. Extreme levels of current assets can have an adverse impact on profitability of the company, however, lower levels of current assets may result in lower levels of liquidity and inventories which make maintenance of smooth operations difficult (Van Horne & Wachowicz, 2004).

#### **2.2.4.2 The Conservative Approach**

Conservative approach suggests that if firms maintain a larger volume of current assets compared to total assets, profitability is decreased because of lower risk (Nwankwo & Osho, 2010). This includes significant investment in existing assets leading to a high level of liquidity. Long-term debt and equities are used to finance non-current assets and certain current assets. Companies who use this approach are operating in large quantities and therefore face relatively low risks. However, financing for the long term is more costly than funding for the short term. A more conservative and flexible working capital policy would ensure more cash balance, perhaps even short-term securities investment, more generous loan terms and greater customer inventories (Chittenden et al. 1998). This will lead to less risk of financial difficulties or stock problems, but will reduce profitability of the business.

### **2.2.4.3 The Moderate Approach**

This is a risk and return balancing approach. Current short-term assets are financed through short debts, non-current assets through long-term debt and equity financing. This entails corresponding risks to expected returns. This approach leads to moderate management of working capital and a moderate level of risk. A moderate policy would lead between aggressive and conservative approaches on the middle way. One can point out that the working capital strategies of a company can only be compared with those of similar company policies in working capital as aggressive, moderate or conservative ones (Chittenden et al. 1998). Moderate approach suggests moderation of a firms' risks, however, firms would not be able to meet maturing obligations (Nwankwo & Osho, 2010).

## **2.2.5 Managing Working Capital Components**

### **2.2.5.1 Baumol Model of Cash Management**

The model is used to determine the optimal cash balance the company should have under certain conditions. The model assumes that the company can predict with certainty the cash it needs and receives certain amounts regularly. In addition the company assumes that cash payments will be made uniformly over a period and that there can be no doubt of the cost of holding cash. Baumol (1952) stated that the excess funds at their disposal are invested by cash managers in securities with interest bearing and converted into cash in case of corporate demand of money. Cash managers also have fewer cash by investing in these securities, and the increased cost of holding cash by increasing the return on investment. The transaction costs are attracted by the conversion to cash or liquidating securities. Cash managers have higher cash balances as transaction costs increase. The administration of the cash mix means that the optimal rate of refilling of cash and the amount of securities to be liquidated is determined (Muya & Gathogo, 2016). Marsh (2009)

has admitted that although the model is easy to use, cash required over future periods could not be predicted accurately, because the model assumes that the company is constantly demanding cash. Pandey (2010) also stressed that the main constraint of the Baumol model is that the flow of cash does not fluctuate. In practice, enterprises neither use cash balance consistently nor can accurately forecast daily cash inflows and outflows (Pandey, 2010).

### **2.2.5.2 Miller and Orr's Cash Management Model**

The cash management model of Miller and Orr (1966) explains that companies allow the upper and lower limit on the cash balance. Therefore in the case where a cash balance is at the lower or upper limit, companies buy and sell their commercial securities. The model provides an opportunity to optimize the cash balance and to sell securities to raise the cash. It also provides when excess cash will be invested by purchasing securities and reducing their cash holdings (Muya & Gathogo, 2016). Pandey (2010) emphasized that the model Miller Orr overcame the short coming of the Baumol model because it permits fluctuations in daily cash flow and assumes that the net cash flow is normally allocated. This model provides uncertain cash and security stocks (precautionary balance), as opposed to the Baumol Model. According to Marsh (2009), in order to bring cash back to an ideal return point, the model Miller Orr sets higher and lower limits which cause securities to buy and sell actions. In doing so it limits cash movement up and down to acceptable limits. The model enables companies to define the lower limit and the higher limit and the average cash balance are set in the model.

### **2.2.5.3 ABC System**

The ABC system is a commonly used classification technique in which various inventory items are identified for inventory control purposes. This technique is based on the assumption that the

company does not control all inventory items in the same degree. It should rather maintain more stringent control over items that are costly or slow to turn, and less costly items should be maintained with less control (Brigham & Houston, 2007).

#### **2.2.5.4 Economic Order Quantity**

According to Ogbo (2011) economic order quantity minimize cost stability between stock prices and re-order charges. Ogbo (2011) also underlined that in order to calculate a basic EOQ, positive assumptions are necessary that the cost of conservation in inventory is eliminated regularly, the prices are stable; the price of the stock prices are recorded, the regular unit rate is recognized, replenishment is immediately made. The justification for EOQ ignores buffer shares which are kept for lead-time and call-for versions (Ogbo, 2011). Cash management could be applied to the economic order quantity (EOQ) model. The securities ranking will maximize interest on saleable securities, while reducing the marketable securities exchange rate. The economic order quantity serves as the equilibrium between the ordering cost and the carrying cost which supports finance managers in determining the order quantity in terms of purchase costs, carrying costs and annual utilization (Burns & Walker, 1991).

#### **2.2.5.5 Just In Time (JIT) Inventory**

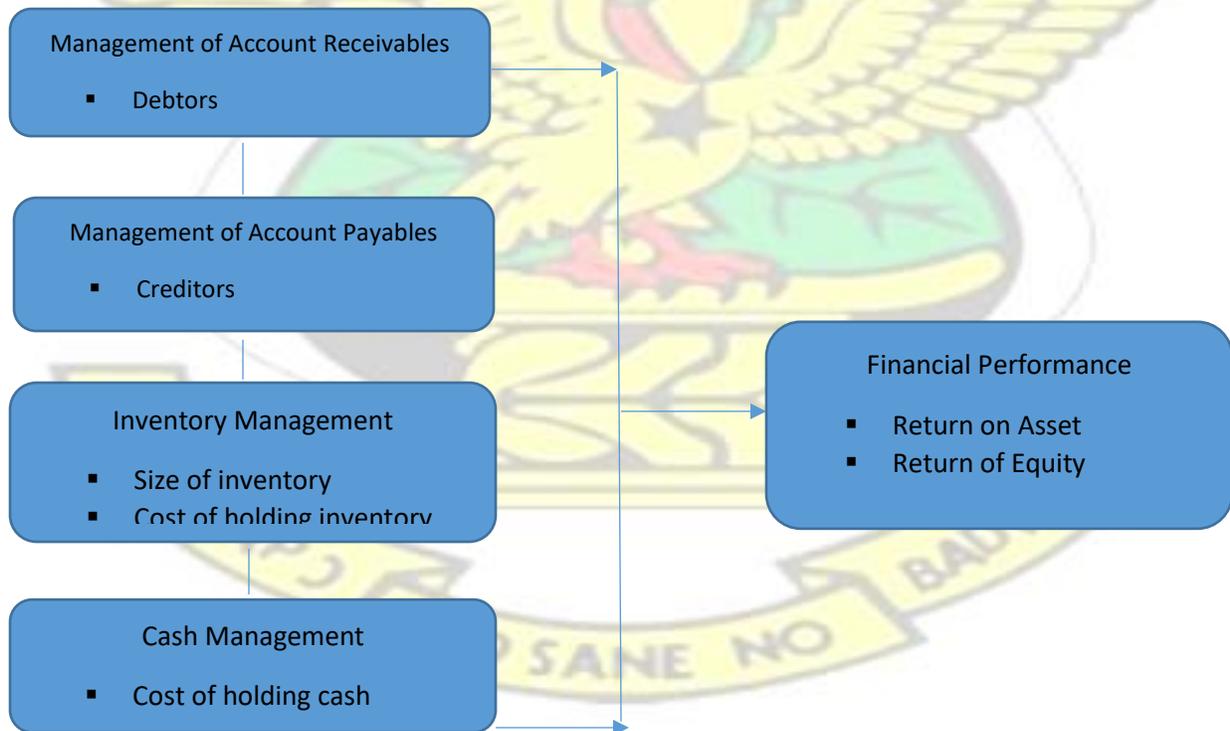
The just-in-time approach is a strategy for efficient inventory management and contributes to lower inventory standards. The strategy aims at making material orders, manufacturing and delivery in good time and not before (Brealey, Myers & Allen, 2006). Mazanai (2012) states that the Just-In-Time (JIT) inventory technology is a method by which materials, goods and labor are ordered in portions that are necessary to meet manufacturing requirements on-site. These gadgets are then acquired cautiously at the exact time they are necessary. This improves performance, cuts waste

and ultimately reduces cost and lead time costs for inventory management. Just-in-time refers to an exercise group that discharges waste. These large companies include the entire supply chain. JIT's components include shared product design with suppliers and customers, movements towards unmarried suppliers, reduced machine installation times and overall preventive protection. Its miles are an inventory approach to increase the return of a commercial company's financing by lowering the inventory and its associated wearing charges (Mazanai, 2012).

### 2.1 Conceptual Model

The dependent variable in this study is the financial performance of CAL Bank while the independent variables were payment and receivable management practices, and cash conversion as illustrated in figure 1.

Figure 1: Conceptual Model



Source: Researcher (2020)

The variables used in this study are independent variables which are working capital management which were operationalized as; management of accounts receivables which considered the management of payment period that is how long does it take the debtors to settle their debts, meaning management of debtors, another representation was the management of accounts payables, where the study will consider the duration the firms take to clear with their creditors, another term is the management of inventory, where the study considered the level of inventory managed, and lastly on independent variable is the management of cash, where the study will look at the length of time taken to convert all the stock to cash, both in hand and in the bank. Another variable is dependent variable represented by profitability of a firm. This variable has operationalized as Return on Equity (ROE) and Return on Asset (ROA).

## **2.4 THEORETICAL FRAMEWORK**

### **2.4.1 Trade - Off Theory**

The theory postulates that businesses determine their optimum working capital by taking account of the marginal investment costs and benefits of investing in current assets. Every aspect of working capital has its own costs and benefits (Wasiuzzaman & Veeri, 2013). The theory postulates that liquidity costs increase with current assets at low return rates. Inversely, illiquidity costs mean that a company is not able to meet its obligations forcing it to borrow at high interest rates for a short time. The company's current asset is not enough. This can affect the credibility of a company and decrease pending access to capital in order to avoid insolvency. A company should balance liquidity and illiquidity costs (Pandey, 2010). Liquidity and illiquidity costs are involved in maintaining a certain level of existing assets. Excessive liquidity means that the returns on assets will be low because funds tied into idle cash and stocks do nothing while high debtors reduce profitability. As a result, liquidity costs due to low returns increase with current asset levels (Frank

& Goyal, 2007). Conversely, the cost of illiquidity means that a company is not able to fulfill its obligation to borrow at high interest rates for the short term. This damages the creditworthiness of a company and can cause insolvency and limit financial access (Michalski, 2009). The company will maximize profit by optimizing holdings of individual current assets. Any investment above the optimal level, however can increase the company's current assets without increasing its profit proportionately. As a result, the investment return rate decreases (Michalski, 2009). Modigliani and Miller (1963) avers that companies with interest deductibility of pre-tax income allows companies to benefit from the leverage, meaning that interest expenses lower taxable income which has a positive impact on their company value. The trade-off theory, on the other side, recognizes that leverage adversely affects corporate performance. The debt financing is associated specifically with an undertaking for future cash outflows in the form of necessary future debt interest payments. These payment measures negatively affect company liquidity and financial performance, which increase bankruptcy and insolvency due to financial risk (Kraus & Litzenberger, 1973; Brealey, Myers & Allen, 2008). Weston and Eugene (1979) also said if the current asset investments decreased to a certain level, that investment in bills could lead to a failure to pay on time and that inventory scarcity would also lead to the production activities being stopped. It can also cause sales loss due to the company's restrictive credit policy. The theory is relevant for the study, as it highlights the need for the company to maintain a working capital level minimizing the liquidity and illiquidity costs of managing working capital items in order to optimize its profitability.

#### **2.4.2 Resource Based View Theory**

This theory describes the ability of a company to produce a sustainable competitive advantage when resources are handled in such a way that competition cannot replicate their results, which

effectively creates a competitive barrier (Mahoney & Pandian 1992, cited by Hooley and Greenly 2005). According to Makadok (2001), a business may gain a sustainable competitive advantage through the unique resources it retains and these resources cannot be easily purchased, transferred or replicated and, at the same time, add value to a company while being uncommon. Companies are seen as a set of resources to create a competitive advantage (Barney 1991). A business that leads to its competitive advantage relies on its material and intangible resources, which are distributed in heterogeneity throughout businesses. Tangible resources can be divided into capital and resources of financial capital. Resources have been applied differently (Nothangel, 2008). Managers have resources to consider potential opportunities, efficiently pool resources, make payments, collect accounts receivable as they fall due to the efficient management of working capital and, essentially, the sustainability of the company. (Aminu & Zainudin, 2016). The theory requires the cognitive control capacity to efficiently handle the business short-term assets (Working Capital) (Alvarez & Busenitz, 2001). The theory postulates on the effective utilization of various resources available to a business including cash management, receivable and payable management which are also variables of the present research. The theory is relevant to the study as banks need to handle cash, receivables and payables well to achieve profitability.

## **2.5 EMPIRICAL FRAMEWORK**

Adjei and Yeboah (2011) examined WCM practices in Ghana in terms of bank profitability. The results of the study was inconsistent in some preceding WCM and profitability studies using panel data from 28 banks over 10 years (from 1999 to 2008). They found that CCC and ADR are positive for profitability of banks, whereas ADP is negative for profitability. In addition, the bank profitability increases significantly credit risk, exchange risk, capital structure and size. But they found companies quoted in the Ghana Bourse to work worse than their non-listed counterpart.

Osuma and Ikpefan (2018) examined how banks' profitability can be enhanced with the efficient management of working capital in a recent study. For the empirical analysis, panel data consisting of 10 Nigerian business banks (2010–2016). The results showed that the management of working capital has a major influence on profitability of banks sampled in the study and that returns on assets are an effective way of measuring the profitability of banks. Ching, Novazzi and Gerab (2011) reported that efficient operation capital administration has been essential to achieving profitability and explored the association between management of working capital and profitable enterprises in Brazil. Furthermore the profitability return increased by efficient inventory and cash conversion cycle management in working capital-intensive enterprises at optimal levels. Increased asset returns were combined with effective inventory management for companies. The study found that profitability can be achieved through proper management of working capital.

Mengesha, Seyoum and Gizaw (2014) conducted a study on the effect of the management of working capital on some manufacturing companies' financial performance in Ethiopia. For a period of four years, the study used financial statements audited by 11 metal-making companies. Working capital was measured via the CCC and the profitability assessed by the return on assets and return on investment. CCC has been found to have a significant inverse relationship with return on asset. It has been concluded that CCC has adversely affected business profitability and management by improving working capital management measures can enhance corporate profitability. Korankye and Adarquah (2013) carried out between 2004 and 2011 an impact study on working capital management in Ghana. They used the WCC to measure profitability and gross operating profit (GOP) for profitability measurement. Their study concluded that working capital and profitability had a negative but important impact. The study also revealed that the relationship between individual cash conversion cycle elements is negative: inventory turnover period, APP,

profitability. In addition, their study showed an important negative relation between leverage and profitability while interest-cover liquidity measures and the current ratio resulted in considerable positive profitability relationships.

Pai and Gama (2015) sampled 6063 small and medium sized enterprises in Portugal covering the period 2002-2009, in an attempt to provide empirical evidence of the impact of management of working capital on the profitability of business organizations. The study used panel data regression (fixed effect). The reverse connection between profitability and working capital management has been revealed. Kodithuwakku (2015) examined the impact on the profitability on the working capital management by sampling 20 Colombo Stock Exchange-listed (CSE) manufacturing companies between 2008 and 2012 by using pearson correlation and ordinarily less square regression. The study revealed an inverse link between profit, debt, stock conversion and the cycle but a positive relationship between profits and creditors. In a sample of 1128 listed small and medium enterprises (SME) in the UK over the 2007 to 2014 period, Afrifa et al. (2014) investigated working capital management and corporate performance relationships. For data analysis, they used a panel data regression analysis. CCC components such as IHP, account receivable period and APP were used for the measurement of working capital whereas Tobin q ratio (QRATIO) was used for performance measurement. They found a concave connection of QRATIO with IHP, ARP and APP.

Alipour (2011) using a sample of 1063 companies listed on the Tehran bourse for six years (2001-2006), examined relationships between working capital management and corporate profitability in Iraq. The cash conversion cycle has been used to assess the efficiency of the management of working capital. The results demonstrate that there is a significant negative relationship between cash conversion, the number of day accounts receivable, inventory revenue per day and business

profitability and that the direct relationship between the days of payable accounts is significant. The study therefore suggested that managers can generate value by reducing receivables, stocks and cash conversion for shareholders.

Using a sample of 13 listed firms on the Ghana stock exchange from 2005 to 2009 using ordinary least square regression (OLS), the relationship between working capital management practices and profitability was examined by Akoto Vito and Angmor (2013). They concluded in their study that the payable accounts have a different connection with profitability. There is however a positive connection between profitability, asset sales, corporate size, current value and cash conversion cycles. Prempeh (2016), using a sample of four companies on Ghana stocks from 2004 to 2014, assessed the relationship between efficient profitability inventory management using the ordinary least square regression. The study showed a positive link between raw material management and profitability. Angahar and Agbo (2014) examined the impact on the profitability of the quoted Nigerian cement industry by working capital between 2002 and 2009. The relationship between working capital and profitability of companies surveyed was found to be positive. Ali and Ali (2012) conducted a study of 15 companies in three (3) different Pakistani sectors. The study shows that efficient working capital management can lead a company to profitability. Therefore, they urged that companies increase their claims and other components of current assets for sufficient working capital.

The impact of work capital management on manufacturers' profitability in Kenya has been studied by Kimeli (2012). The study focused on six stock exchange-listed companies. Data from the 2006 to 2010 financial reports were used in the study. The gross operating profit of the company showed a significant direct relationship with the average collection period and the average payment period. The increase in the average payment period led to an increase in gross profit. However the study

recommended that company managers focus on cutting the cash conversion cycle, reducing the mean recovery period and delaying creditor payments to channel the money into investments or assets that generates enough profits, for example the short-term securities. Ponsian et al. (2014) in a study analyzed the impact of the management of working capital and profitability of manufacturing firms. The study examined the statistical relevance among manufacturing firms listed at the Dar es Salaam Stock Exchanges between working capital management and profitability. Data for the study covered 2002 to 2012 serving a 10 year period. The results of the study indicated that the relationship between APP and profitability had been highly positive and significant. The results indicated that the longer the company paid its creditors, the richer the company. The payments of creditors to holders were intended to benefit from the cash available for the working capital needs. It was found that companies should delay payments to creditors to the extent practicable so as not to strain the relationship with the lending partners.

Makori & Jagonga (2013) has examined the effects of working capital control on productivity of companies. The results show a positive link between productivity, number of stock days and payable days, cash-receivable days and CCC. Higher working capital enables the company to meet its short-term obligations easily. This expands the lending capabilities and reduces default rates and consequently reduces the cost of capital and improves the price of the company. Flexibility in assigning working capital therefore impacts financial short-term profit and long-term financial performance. The relationship between working capital management and the profitability of 88 U.S. companies is examined by Gill et al. (2010). The findings indicated a negative and significant profitability relationship for accounts receivables. The working capital variables of the receivables, the accounts payable and the cash conversions cycle were unilaterally analyzed in accordance with working capital management measures.

Deloof (2003) used a sample size of 1009 large companies not engaged in financial services, from 1992 to 1996, in Belgium to analyze the links between working capital management and financial capital through implementation of commercial credit system, stock policy and the number of days calculated for credit accounts, financial accounts and stocks. The study found that there was considerably a negative correlation between net operating income and the day expenses, stocks and payable accounts. A study was conducted by Boadi, Antwi & Lartey (2013) to determine the determinants of insurance companies' competitiveness in Ghana. From 2005 to 2010, seventeen insurance companies in Ghana collected secondary information on financial reports. In particular, the longitudinal time dimension was used for the panel method and the normal least squared regression. The study used relationship analysis to explain how elements of working capital are linked to profitability. The quantitative method is not the strongest since its timing or proportion is not precisely defined. The study showed a positive correlation of leverage, volatility and competitiveness between Ghana's insurance companies as well as negative tangibility. The study found a good link between Ghana insurance companies' rapid partnership and productive outcomes. Sharma & Kumar (2011) used 263 non-financial firms in Bombay from 2002 to 2008. For analysis of the data, multiple regression analyzes were used. The analysis showed a direct connection between management of working capital and organizational productivity, although a statistically important link between money translation and ROA has not been established.

## CHAPTER THREE

### METHODOLOGY

#### 3.1 INTRODUCTION

The study methodology is discussed in this chapter. It includes research designs, data source and collection methods, population and sample size, variable descriptions, data analysis methods and model specifications.

#### 3.2 RESEARCH DESIGN

##### 3.2.1 Research Approach

Qualitative analysis is used to create new theories in regards to when an inductive approach to research is used. On the other hand, a quantitative study tends to test a theory rather than develop a new one and also uses a deductive approach (Bryman & Bell, 2011). According to Boateng (2014), quantitative research is intended by quantifying variation to determine the quantity, scope or the presence of a relationship between the aspects of an event. In this study, a quantitative research method was employed. This study also employed a quantitative approach because it focuses on numerical data and an interpretation of results in order to try to collect as far as possible information from the numerical values observed.

##### 3.2.2 Research Purpose

Research purpose is an aspect in the design of research serving as a plan that specifies methods and procedures for the collection and analysis of information required to answer questions of research. They include exploratory, explanatory and descriptive approaches (Zikmund et al., 2010). According to Grover (2015), the purpose of explanatory research is to find causal

relationships between dependent and independent variables. This is based on theories about how and why variables should be linked. Hypotheses may be fundamental (i.e. there are relationships) or directional (i.e. positive or negative). Methods of quantitative data collection are particularly useful when the cause and effect relationship between pre-selected and discrete variables is measured by a study (Cooper & Schinder, 2011). The research project adopts an explanatory design for establishing links between dependent and independent variables.

### **3.2.3 Time Dimension of the Research**

The study adopted the dimensions of the longitudinal time series because the data for the study sampled varies over periods. The analysis is based on financial statements from the selected bank. Saunders et al. (2012) argued that it was best to study changes and developments on a number of data that can be observed.

### **3.2.4 Research Strategy**

Saunders, Lewis and Thornhill (2012) avers that several strategies for research can be employed. Experiments, surveys, case research, ethnography, and action research were identified as some research strategy. The research strategy that was adopted for the study is the case study. This helps to study the sequence of events and highlight the relationship between the management of working capital and the performance of CAL Bank.

### **3.3 DATA COLLECTION AND ANALYSIS**

#### **3.3.1 Sources of data**

This study adopts the use of secondary data for its data gathering. This involves historical data between the period 2009 to 2019 being used to establish the relationship between working capital management practices and the bank's performance. The secondary data for the study was obtained from the audited statements of the bank comprising statement of comprehensive income and statement of financial position which contain data on profit after tax, revenue, current assets, current liabilities, property, plant and equipment.

#### **3.3.2 Data Analysis**

The data collected is analyzed using quantitative techniques. The analysis is carried out using the analysis tool STATA Statistical Software 13.0 for the data obtained through the audited financial statements of the selected bank. The researcher uses this analytical tool to perform descriptive statistics on the variables for the study, Pearson correlation coefficient and regression analysis. The study conducted panel data regression analysis to assess the independent variable relationship with the dependent variable. Pearson correlation coefficient is used for the degree to which dependent and independent variables correlate.

### **3.4 POPULATION OF THE STUDY**

A group of individuals or objects for a statistical use in a research study is defined as the population for the study (Collis & Hussey, 2009). Mugenda and Mugenda (2003) also defined population as a well-defined group of persons or objects that is known to be similar in character. Ghana's commercial banks serve as the target population in this study. According to PwC (2019) there are 23 universal banks operating in Ghana.

### 3.5 SAMPLE SIZE AND SAMPLING PROCEDURE

The method of sampling used for sample selection for the study were the convenience and purposive sampling technique. The researcher is interested in knowing how well these local banks in managing its working capital has influenced its performance in Ghana. Three local banks were selected using convenience and purposive sampling technique which was based on the judgement of the researcher. The three (3) local commercial banks selected for the study were Agricultural Development Bank (ADB), Ghana Commercial Bank (GCB) and CalBank Limited.

### 3.6 VARIABLE MEASUREMENT

In order to establish a connection between working capital management components and profitability, the research aimed at using some liquidity and other related ratios. To show the individual variables, the researcher uses the following ratios:

Variable	Measurement Definition	Acronym
Return on Asset	This is an indication of the profitability of an enterprise in terms of its total assets	ROA
Return on Equity	This is an indicator of the profitability of a company in relation to the amount of profit returned as equity	ROE
Acid Ratio	This measures the ability of the company to pay short and long term financial obligations	AR
Loan Deposit Ratio	The loan to deposit ratio is used to assess the liquidity of a bank by comparing total loans to total deposits	LDR

Net Interest Income	This represents the difference between revenue generated from lending activities and interest paid out to depositors	NIM
Monetary Policy Rate	This represents the interest rate at which BOG lends to financial institutions and banks	MPR
Bank Size	This is defined as the natural log of Total Assets	BSIZE
Leverage	It is calculated as total debt/(total debt + total equity)	LEV

Acid Ratio (AR): This ratio represents the ability of a company to settle its financial obligations in due course.

$$AR = \text{Current Assets} / \text{Current Liabilities}$$

Loan to Deposit Ratio (LDR): This ratio assesses the amount of total loans giving out comparative to amount of deposits made by customers.

$$LDR = \text{Total Loans} / \text{Total Deposit}$$

The dependent variable of the banks was represented by the profitability of the bank, which is a combination of asset return (ROA) and equity return (ROE) as specified separately in equation (1) and (2).

$$ROE_{it} = \beta_0it + \beta_1AR_{it} + \beta_2LDR_{it} + \beta_3NIM_{it} + \beta_4MPR_{it} + \beta_5SIZE_{it} + \beta_6LEV_{it} + \epsilon_{it} \dots\dots (1)$$

$$ROA_{it} = \beta_0it + \beta_1AR_{it} + \beta_2LDR_{it} + \beta_3NIM_{it} + \beta_4MPR_{it} + \beta_5SIZE_{it} + \beta_6LEV_{it} + \epsilon_{it} \dots\dots (2)$$

Where

$ROE_{it}$  = Return on Equity by Bank (i) at time (t); i = 1, 2... n

$ROA_{it}$  = Return on Asset by Bank (i) at time (t); i = 1, 2... n

$\beta_0$ = Intercept of Equation

$\beta_1$ = Coefficient of Acid Ratio (AR)

$\beta_2$ = Coefficient of Loan to Deposit ratio (LDR)

$\beta_3$ = Coefficient of Net Interest Margin (NIM)

$\beta_4$ = Coefficient of Monetary Policy Rate (MPR)

$\beta_5$ = Coefficient of Bank Size (SIZE)

$\beta_6$ = Coefficient of Leverage (LEV)

$\varepsilon$ = Error term

### 3.7 MODEL FORMULATION

The study adopted the following regression model suggested by Yeboah and Yeboah (2014):

$$bP_t = \beta_0 + \sum^n \beta X_{it} + \varepsilon \dots\dots\dots (1)$$

$bP_t$  = Bank Profitability proxied by return on asset and return on equity

$\beta_0$  = the intercept of equation

$\beta_1$  = coefficient of  $X_{it}$  variables

$X_{it}$  = the various independent variables  $i$  at time  $t$

$T$  = number of years from 1, 2 ....  $N$

$\varepsilon$ = error term

### 3.8 VALIDITY AND RELIABILITY OF DATA

A number of assumptions form the basis of multiple regression analysis. Appropriate tests are carried out on the variables prior to panels to ensure valid and reliable results of the multiple regression analysis. Correlation matrices for each model used in the study are generated to determine if multicollinearities existed between the independent variables (Pallant, 2013). Cook's Distances are used to identify any outliers in the data and these outliers are removed before conducting the multiple regression analysis (Pallant, 2013).



## CHAPTER FOUR

### ANAYLSIS AND DISCUSSION OF RESULTS

#### 4.1 INTRODUCTION

This chapter presents results of the study on working capital management and performance of bank. It comprises summary statistics of variable used, correlation analysis and regression results.

#### 4.2 DESCRIPTIVE STATISTICS

Table 4.1 below presents the summary of statistic variables used in the study. The table shows descriptive statistics based on derived ratios indicating the mean, median, maximum and minimum values and also number of observations of the variables used in the study. Table 4.1 presents variable statistics used in the study descriptive.

Table 4.1 Descriptive Statistics

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
ROA	33	3.218182	1.698127	.2	5.9
ROE	33	21.29091	9.954843	1.4	35.8
LEV	33	1.8577278	0.0273261	0.82	0.93
SIZE	33	6.412825	0.3600132	5.65	7.09
NNI	33	8.081818	1.29137	5.7	10.5
AR	33	1.526364	0.1888	1.26	1.86
LDR	33	91.84636	17.13563	73.1	122.76
MPR	33	18.22727	4.48533	12.5	26

Source: Researcher's Computation, 2020

From the results presented in table 4.1 above, the study observed that the mean of return on asset (ROA) is approximately 3.22 and it ranges from 0.2 to 5.9; the mean value of return on equity (ROE) is 21.29 and it ranges from 1.4 to 35.8; the mean of profit margin (PAT) is 39.89 and it ranges from 3.4 to 58.3; the mean value of leverage is approximately 1.86; the mean value of bank size is approximately 6.41; the mean value of acid test ratio is approximately 1.53; the mean value of net income (NNI) is 8.08 and it ranges from 5.7 to 10.5; the mean value of loan deposit ratio (LDR) is approximately 91.85 and it ranges from 73.1 to 122.76 and monetary policy rate (MPR) has a mean value of approximately 18.23 and ranges from 12.5 to 26 respectively.

#### **4.3 CORRELATION MATRIX**

This analysis assesses the strength and direction of the relationship of the dependent variable with the independent variables. This was also used to examine multicollinearity among the predictor variables. The coefficient of correlation for pearson product moment, pairs the independent variables measuring the grade of linear relation between two or more variables. The table below shows the matrix of correlation for the variables used in the study and shows that the independent variables are linked and thus prevents potential multicollinearity problems in the estimate of regression in order to determine whether there is multicollinearity.

Table 4.2 Correlation Matrix

	WCR	ROA	ROE	LEV	NNI	MPR	LDR	AR	SIZE
WCR	1								
ROA	0.1275	1							
ROE	-0.1250	0.9555	1						
LEV	-0.9992	-0.1249	0.1275	1					
NNI	0.3006	0.4275	-0.3883	-0.2991	1				
MPR	0.3494	-0.1028	-0.2096	-0.3571	-0.0510	1			
LDR	0.0002	-0.0235	-0.0695	0.0018	-0.1258	-0.0518	1		
AR	0.1196	0.3179	0.3178	-0.1198	0.4150	0.2321	0.1624	1	
SIZE	-0.0512	0.1737	0.1942	0.0477	0.3639	0.3523	-0.2537	0.0020	1

\*\*Correlation is significant at 0.01 level (2-tailed)

\*Correlation is significant at 0.05 level (2-tailed)

The correlation between the independent variables ranged between 0.05 and 0.95 as shown in the table above. According to Field (2009) multicollinearity is a problem if the correlations exceed 0.8 or 0.9. Myers (1990) suggests, however, that there is some degree of multicollinearity, even if no correlation coefficient is extremely large. Therefore, an analysis of the variance inflation factors (VIFs) was further conducted to test for multicollinearity. The VIF 2.26 was for the variables. This is much lower than the threshold value of 10 recommended by Field (2009) indicating that multicollinearity does not pose an issue for the regression analysis.

Table 4.2.1 Variance Inflation Factor

Variable	VIF	1/VIF
AR	2.96	0.337656
PAT	2.8	0.357379
NNI	2.02	0.496081
LDR	1.91	0.522389
MPR	1.59	0.627408
LEV	1.78	0.363957
SIZE	1.69	0.357186
Mean VIF	2.11	

Source: Researcher's Computation, 2020

#### 4.4 MULTIPLE REGRESSION

##### 4.4.1 The effect of level of working capital management on the profitability of the bank

The first objective of the study examined the effect of working capital management on the profitability of the bank. Table 4.3 below present results for the regression model on return on asset (ROA) and return on equity (ROE).

Table 4.3 Regression results of working capital management and ROA

ROA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
LEV	-0.193042	0.256804	-0.75	0.452	-0.696816	0.312968
NNI	-0.013764	0.006668	-0.56	0.032	-0.093024	0.016809
MPR	0.022473	0.017976	1.26	0.206	-0.057961	0.012505
LDR	-0.040143	0.002166	-0.07	0.947	-0.004388	0.004102
AR	0.051852	0.036725	1.41	0.018	-0.020101	0.123894
SIZE	0.026962	0.021359	0.98	0.327	-0.027294	0.062217
_cons	0.002357	0.229233	0.01	0.992	-0.434566	0.439275

Number of obs = 33

Wald chi2(3) = 8.88

R-squared = 0.3534

Adj R-squared = 0.3038

Prob > chi2 = 0.1802

Predictors: Constant, LDR, AR, PAT, NNI, MPR, LEV, SIZE

Dependent variable: ROA

From table 4.3 above, an adjusted R<sup>2</sup> of 30.38% is reported for ROA to the independent variables. In terms of return on assets from Table 4.3, a leverage showed a negative coefficient ( $\beta = -0.19$ ) and was statistically insignificant. Net interest income showed a negative coefficient ( $\beta = 0.001$ ) and was statistically significant at 5% significant level. Monetary policy rate showed a positive coefficient ( $\beta = 0.022$ ) and was not significant as it was greater than 5% significant level. Loan deposit ratio showed a negative coefficient ( $\beta = -0.040$ ) and was not significant as it was greater than 5% significant level. Acid test showed a positive coefficient ( $\beta = 0.051$ ) and was statistically significant at 5% significant level. Bank size showed a positive coefficient ( $\beta = 0.026$ ) and was not significant as it was greater than 5% significant level.

Table 4.3 Regression results of working capital management and ROE

ROE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
LEV	0.670823	1.696352	0.40	0.693	-2.654706	3.994871
NNI	-0.027467	0.044372	-0.62	0.036	-0.059646	0.113579
MPR	-0.017115	0.018742	-1.44	0.150	-0.043745	0.006715
LDR	-0.025368	0.001437	-0.38	0.708	-0.003349	0.002673
AR	-0.402659	0.242531	-1.66	0.017	-0.072664	0.877933
SIZE	0.143296	0.139622	1.03	0.305	-0.134253	0.416844
_cons	-1.716562	1.472512	-1.17	0.244	-4.602632	1.169509

Number of obs = 33

Wald chi2(3) = 11.39

R-squared = 0.5847

Adj R-squared = 0.5847

Prob > chi2 = 0.0770

Predictors: Constant, LDR, AR, PAT, NNI, MPR, LEV, SIZE

Dependent variable: ROE

From table 4.4 above, an adjusted R<sup>2</sup> of 58.47% is reported for ROE to the independent variables.

In terms of return on assets from Table 4.4, a leverage showed a positive coefficient ( $\beta = 0.67$ ) and

was statistically insignificant. Net interest income showed a positive coefficient ( $\beta = 0.027$ ) and was not significant as it was greater than 5% significant level. Monetary policy rate showed a negative coefficient ( $\beta = -0.017$ ) and was not significant as it was greater than 5% significant level. Loan deposit ratio showed a negative coefficient ( $\beta = -0.025$ ) and was not significant as it was greater than 5% significant level. Acid test showed a positive coefficient ( $\beta = 0.40$ ) and exceeded 5% of the significant level. Bank Size showed a positive coefficient ( $\beta = 0.143$ ) and was not significant as it was greater than 5% significant level. This corroborates results of a study conducted by Hoque et al. (2015) which indicated acid test ratio and net interest income have a negative relationship on return on asset and return on equity. This has also been corroborated by Yahaya and Bala (2015) who also found that liquidity helps to achieve a better performance and that banks must maintain an increased acid test in order to increase profitability. Studies by Vahid, Mohsen and Muhammadreza (2012) have collaborated to conclude that the liquid asset ratio is adversely correlated to the performance of companies, which means it can have a negative influence as the greater utilization of current liabilities to fund a company's operations will affect the performance of the company in terms of return on assets.

#### **4.4.2 The effect of accounts payable management on the profitability**

The second objective of the study examined the effect of accounts payable management on the performance of the bank. Table 4.5 and 4.6 below present results for the regression model for equations return on asset (ROA) and return on equity (ROE).

Table 4.5 Regression table for account payable and ROA

ROA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
AP	-0.254891	3.610337	-0.23	0.827	-7.353678	8.980619
_cons	31.23325	50.5116	0.20	0.848	-104.3332	124.1972

Number of obs = 33  
Wald chi2(3) = 12.17  
R-squared = 0.1355  
Adj R-squared = 0.1051  
Prob > chi2 = 0.7257

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Predictors: Constant, AP  
Dependent variable: ROA

Table 4.6 Regression table for account payable and ROE

ROE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
AP	-0.19895	.6167154	-0.11	0.462	-.0566039	1.494052
_cons	1.83656	8.628359	0.74	0.909	-.3711059	21.35526

Number of obs = 33  
Wald chi2(3) = 11.34  
R-squared = 0.1494  
Adj R-squared = 0.1121  
Prob > chi2 = 0.6074

---

Predictors: Constant, AP  
Dependent variable: ROE

The results in table 4.5 and table 4.6 showed that the coefficient of account payable cash flow was ( $\beta = 0.25$ ) and ( $\beta = 0.19$ ) respectively. It is also showed a negative effect of operating cash flow on ROA and ROE respectively. The P value was 0.876 with respect to ROA showing an insignificant effect as it is greater than 5% level of significance. With regards to ROE the results show that the coefficient of account payable was 0.813. This showed a positive effect of account payable on ROE. The P value was 0.827 which is greater than 5% level of significance. The results

also showed account payable had a negative relationship with the profitability of the bank but however was insignificant as it was more than the 5% significance level. This implies that a unit increase in account payable could result in a corresponding decrease in the profitability of the bank. The results of the study collaborate findings of a related study by Knauer and Wohrmann (2013) which indicates account payable management negatively affects profitability. The results of the study also contradicts findings in related study by Upadhyay et al (2015) that found out that account payable management positively affects business profitability.

#### 4.4.3 To examine the impact of operating cash flow on the profitability of Bank

The third objective examined the impact of operating cash flow on the performance of the bank. Table 4.7 below present results for the regression model for return on asset (ROA) and return on equity (ROE). OA, IA and FA represents operating activities, investing activities and financing activities respectively.

Table 4.7 Regression table for operating cash flow and ROA

ROA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
OA	-0.014639	.0193625	-0.76	0.450	-.0525797	.0233199
IA	0.009942	.0098787	0.10	0.920	-.0203561	.0183677
FA	-0.001289	.010987	-0.12	0.906	-.022833	.0202353
_cons	.1244426	.0959819	1.30	0.195	-.0636785	.3125638

Number of obs = 33

Wald chi2(3) = 10.38

R-squared = 0.4403

Adj R-squared = 0.3184

Prob > chi2 = 0.7100

Predictors: Constant, FA, IA, OA

Dependent variable: ROA

Table 4.8 Regression table for operating cash flow and ROE

ROE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
OA	-0.099924	.1315317	-0.76	0.447	-.3577211	.1578736
IA	0.001942	.0098787	0.10	0.920	-.0203561	.0183677
FA	-0.001389	.010987	-0.12	0.906	-.022833	.0202353
_cons	0.1244426	.0959819	1.30	0.195	-.0636785	.3125638

Number of obs = 33  
Wald chi2(3) = 1.79  
R-squared = 0.3714  
Adj R-squared = 0.2634  
Prob > chi2 = 0.6168

Predictors: Constant, FA, IA, OA

Dependent variable: ROE

The results in table 4.8 showed that the coefficient of operating cash flow was ( $\beta = -0.014$ ) and ( $\beta = -0.099$ ) respectively. It is also showed a negative effect of operating cash flow on ROA and ROE respectively. The p value was 0.409 with respect to ROA showing an insignificant effect on ROA, regarding ROE, the value of P was 0.447. This suggests an insignificant negative impact of operating cash flow management on ROE. The result of the study collaborates Nobanee and AlHajjar (2009) findings in a related study that showed a negative relationship between operating cash flows and profitability. This result collaborates a study by Mong'o (2010) on the impact of cash flow on profitability among commercial banks. The study found that financial flows and investments had a positive effect on the profitability of the banks whilst operating cash flow had a negative effect. This result also collaborates findings of Andreas (2017) which indicated operating cash flow negatively influenced earnings of the firms they studied.

#### 4.5 DISCUSSION OF RESULTS

The first objective examined the impact on financial performance of working capital management.

The results of the study indicated an insignificant effect between the independent variables and the dependent variable at a 5% significance level with the exception of net interest income and acid

ratio. The results of the study collaborates findings of related studies conducted by Yahaya and Bala (2015), Hoque et al. (2015), Vahid, Mohsen and Mohammadreza (2012). Vahid, Mohsen and Mohammadreza (2012) concluded that the liquid asset ratio is therefore negatively related to the performance of companies, which can affect the company's performance by using more current debts to finance its activities (ROA).

The second objective examined the effect of accounts payable management on the performance of the bank. The results also showed account payable had a positive relationship with the profitability of the bank but however was insignificant as it was more than the 5% significance level. The results of the study collaborates findings of a related study by Knauer and Wohrmann (2013) which indicates account payable management negatively affects profitability. However, the results of the study contradict findings in related study by Upadhyay et al (2015) that found out that account payable management positively affects business profitability.

In examining the impact of operating cash flow on the profitability of the bank, the results of the study indicates that operating cash flow management had an insignificant negative effect on ROE. The result of the study collaborates Nobanee and AlHajjar (2009), Mong'o (2010) and Andreas (2017) findings in a related study that showed a negative relationship between operating cash flows and profitability.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATION

#### 5.1 INTRODUCTION

This chapter covers a summary of findings, conclusions and recommendations based on the study objectives. The study aimed at examining the effect of working capital management on the performance of local banks. The study sampled three (3) local bank using the convenience and purposive sampling technique. Secondary data was adopted for the study by analyzing financial statements of three local banks. Descriptive statistics, correlation and regression analysis were the analytical technique used to analyze data collected.

#### 5.2 SUMMARY OF FINDINGS

The first objective of the study sought to examine the effect of working capital on the performance of the bank. The results showed that there was an insignificant impact between some of the independent variables and the dependent variable at a 5% significance level with the exception of net interest income and acid ratio. The regression results showed a negative and positive relationship between variables with net interest income and acid test ratio having a significant effect on the profitability or performance of the bank.

The second objective analyzed the effect of accounts payable management on profitability of the bank. The results also showed account payable had a negative relationship with the bank's profitability. This indicates an increase in account payables would have an impact on the profitability or performance of the bank.

The third objective analyzed the impact of operating cash flow items on the profitability of the bank. The results of the study indicated a negative impact on profitability while cash flow financing

has a positive effect on the banks' profitability. This suggests a negative operating cash flow impacts the banks performance thereby would result in weaker financial position.

### **5.3 CONCLUSION**

The results of the study indicated the independent variables of the study did not have a significant influence on the performance of the bank except net interest margin and acid test ratio. Account payable management had a negative but insignificant influence on the performance of the bank. The results of the study demonstrated that cash flow from the operating and the investing activities have a negative effect on the banks profitability while financing cash flow have a positive effect. The study therefore concludes that net interest margin and acid test ratio influences or impacts performance or profitability. It is therefore imperative for banks to control or manage their working capital effectively to maximize profitability.

### **5.4 RECOMMENDATION**

The study recommends that the management of the banks take steps towards exploiting its idle cash and bank balance to settle its short-term debt obligations and operating costs in order to raise its current ratio. The study recommends that in order to ensure that local banks have adequate liquidity to meet its financial obligations, acid ratio and loan deposit ratios which would impact the performance of the banks.

### **5.5 LIMITATION OF THE STUDY**

The research used secondary data which is more quantitative data that sometimes miss certain information and restrict opinions of respondents regarding the variables in the study.

## 5.6 RECOMMENDATIONS FOR FURTHER STUDY

Further studies could be undertaken to explore the link between working capital management and the profitability of micro-finance institutions in Ghana.



## REFERENCES

- Adelman, P. J., & Marks, A. M. (2007) *Entrepreneurial finance*, 4th ed. New Jersey: Pearson, Prentice Hall.
- Afrifa, G.A, Tauringana, V., & Tingbani, I. (2014). Working capital management and performance of listed SMEs. *Journal of Small Business and Entrepreneurship*, 27(6), 57-578
- Agyei, S. K., & Yeboah, B. (2011). Working capital management and profitability of banks in Ghana. *British Journal of Economics, Finance and Management Sciences*, 2(2), 1-12.
- Agyei-Mensah, B. K. (2012). Working Capital Management Practices of Small Firms in the Ashanti Region of Ghana. *International Journal of Academic Research in Business and Social Sciences*, 2(1), 567–583.
- Agyemang, B. E., & Asiedu, K. M. (2013). The Relationship between Working Capital Management and Profitability of Listed Manufacturing in Ghana. *International Journal of Business and Social Research*, 3(2), 25–34.
- Akoto, R. K., Awunyo-Vito, D., & Angmor, P. L. (2013). Working capital management and profitability: Evidence from Ghanaian listed manufacturing firms. *Journal of Economics and International Finance*, 55, 373-379
- Aksoy, A., (2005). Working Capital Management. 1st Edn. *Gazi Publications*, Ankara, Turkey, ISBN: 975-8895-77-X. pp: 1-2.
- Ali, A. & Ali, S.A (2012) Working capital management: Is it Really Affects the Profitability? Evidence from Pakistan. *Global Journal of Management and Business Research*, 12(17), 75-78
- Alipour, M. (2011). Working capital management and corporate profitability: Evidence from Iran. *World Applied Sciences Journal*, 12(7), 1093–1099

- Alvarez, S. A., & Busenitz, L. W. (2001). Resource Based Theory: *Journal of Management*, 2(6) 755-775
- Aminu, Y., & Zainudin, N. (2016). A review of anatomy of working capital management theories and the relevant linkages to working capital components: A theoretical building approach. *European Journal of Business and Management*, 7(2), 10-18
- Andreas, A. (2017). Analysis of Operating Cash Flow to Detect Real Activity Manipulation and its Effect on Market Performance. *International Journal of Economics and Financial Issues*, 7(1), 524-529
- Anghar, P.A. & Agbo, A. (2014). Impact of working capital on the profitability of the Nigeria Cement Industry. *European Journal of Accounting Auditing and Finance Research* 2(7) 17-30
- Ani, W. U., Okwo, I. M., & Ugwunta, D. O. (2012). Effects of Working Capital Management on Profitability: Evidence from the Topfive Beer Brewery Firms in the World. *Asian Economic and Financial Review*, 2(8), 966 – 982
- Aravindan, R. & Ramanathan, K., (2013). Working Capital Estimation/Management - A Financial Modeling Approach, *Advances In Management*, 6, 9, pp. 4-10
- Aregbeyen, O. (2013). The effects of Working Capital Management on the Profitability of Nigerian Manufacturing Firms. *Journal of Business Economics and Management*, 14(3), 520–534
- Arnold, G. (2008). *Corporate financial management* (4th ed.). Pearson education limited
- Ballon, R. H. (2004). *Business logistics/supply chain management. Planning, organizing and controlling the supply chain* (5th ed.). USA: Pearsons-Prentice Hall

- Bana, A. (2012). Working capital management and firms' performance in emerging markets: The case of Jordan. *International Journal of Managerial Finance*, 8(2), 155–179
- Bank of Ghana (2010). Monetary Policy Report. Financial Stability Report, 5, No.5/2010
- Baumol, W.J. (1952). The transaction demand for cash: An inventory theoretic approach. *Quarterly Journal of economics*. 66, 545-556
- Beaumont M Smith & Begemann, E. (1997): Measuring Association between Working Capital and Return on Investment", *South African Journal of Business Management*, 28 (1)
- Berryman, J. (1983). Small Business Failure and Bankruptcy: A Survey of the Literature, *European Small Business Journal*, 1(4), pp 47-59
- Brigham, F, Houston J. F, & Eugene F., (2009). *Fundamentals of Financial Management*. 6th Edition. New Jersey: Concise. South Western
- Boadi, E., Antwi, S., & Lartey, V. (2013). Determinants of Profitability of Insurance Firms in Ghana. *International Journal of Business and Social Research*, 3(3), 43- 50
- Boateng, R. (2014). *Research Methods*. Accra: PearlRichards Foundation.
- Brealey, R.A., Myers, S.C., & Allen, F., (2006). *Corporate Finance*. 8th edition. New York: McGraw-Hill/Irwin
- Brealey, R., Myers, S., & Allen, F. (2008). *Principals of Corporate Finance* (International Edition ed.). New York: McGraw-Hill Education
- Brealey, R., Meyers, S. & Allen, F., (2013). *Principles of Corporate Finance*, 10th Ed. McGraw Hill, Singapore
- Brigham, E. F. & Houston, J. F (2007). *Fundamentals of Financial Management*. 10th Edition Concise Edition, South Western - Thomson

- Brigham, E.F., Gapenski, L., & Ehrhardt, M.C. (1999). *Financial Management: Theory and Practice*, 9th edn. The Dryden Press, Japan
- Bryman, A. & Bell, E. (2011). *Business research methods*. Oxford: Oxford Univ. Press.
- Burns, R. & Walker, J. (1991). A Survey of Working Capital Policy among Small Manufacturing Firms: *The Journal of Small Business Finance*, 1 (1), 61-74
- Chakraborty, K. (2008). Working capital and Profitability. *Icfai Journal of Management research*, Vol 34:32-47.
- Chandra, P. (2008). *Financial Management: Theory and Practice*. New Delhi: Tata McGraw Hill Education Private Ltd.
- Chatterjee, S. (2010). The Impact of Working Capital Management on the Profitability of the Listed Companies on the London Stock Exchange. *Working Paper Series*, SSRN
- Ching, H. Y., Novazzi, A., & Gerab, F. (2011). Relationship between working capital management and profitability in Brazilian listed companies. *Journal of Global Business and Economics*, 3(1), 74-86.
- Chittenden, F., Poutziouris, P. & Michaelas, N. (1998). Financial Management and Working Capital Practices in UK SMEs“, Manchester, Manchester Business School. Capital Practices in UK SMEs“, Manchester, Manchester Business School
- Collis, J. & Hussey, R. (2009). *Business Research: A Practical Guide for Undergraduate & Postgraduate Students*. 3rd ed., London: Palgrave Macmillan
- Cooper, B.J., Leung, P., Matthews, C., Carlson, P. Adapted by Mathews R. (1998). *Accounting And Finance For Managers*. (New Zealand Edition). Australia: Jacaranda Wiley Limited.
- Cooper, D. R., & Schindler, P. S. (2011). *Business research methods*.(11th ed.). New York:McGraw-Hill

- Copeland, T.E., Weston, J. F., & Shastri, K., (2005). *Financial Theory and Corporate Policy*, 4th ed, Pearson Addison Wesley
- Damodaran, A., (1997). *Corporate finance: Theory and Practice*, published by John Wiley & Sons, Inc, printed in the United States of America
- Deloof, M. (2003), “Does working capital management affect profitability of Belgian firms?” *Journal of Business Finance & Accounting*, Vol. 30, Nos. 3 & 4, pp. 573-588
- Eljelly, A. M. A. (2004). Liquidity-Profitability Tradeoff: An Empirical Investigation in an Emerging Market, *International Journal of Commerce and Management*, Vol. 14, No. 2, pp. 48-61.
- Evcı, S., & Şak, N. (2018). The Effect of Working Capital Management on Profitability in Emerging Countries: *Evidence from Turkey. Financial Management from an Emerging Market Perspective*, 205-218.
- Falope, O. I. & Ajilore, O.T (2009). Working Capital Management and Corporate Profitability: Evidence from Panel Data Analysis of Selected Quoted Companies in Nigeria. *Research Journal of Business Management*, 3: 73-84
- Fazzari, S. & Petersen, B. (1993). Working capital and fixed investment: new evidence on finance constraints: *Randall Journal of Economics*, 24, 328 – 42
- Field, A. P (2009). *Discovering statistics using SPSS*. Thousand Oaks, CA: Sage.
- Frank, M., & Goyal, V. (2007). Trade-off and pecking order theories of debt. *Journal of Financial Economics*, 67(2), 217-248.
- Fried, D., Sondhi, A.C., & White, G.I. (2003). *The Analysis and Use of Financial Statements*. 3rd Edn. John Wiley & Sons, ISBN 978-0471-37594-4, pp 124.
- Frimpong, M. J. (2010). *Corporate Financial Strategy*. Kumasi, KNUST Printing Press

- Ganesan, V., (2007), An analysis of working capital management efficiency in Telecommunication equipment industry, *Rivier Academic Journal*, Vol 3, No.2
- Ghosh, S. K., & Maji, S. G. (2004). Working capital management efficiency: A study on the Indian cement industry. *Management Accountant*, 39(5), 363–372
- Gill, A., Biger, N., and Mathur, N., (2010), “The relationship between working capital management and profitability: evidence from the United States”, *Business and Economics Journal*, Volume 2010
- Gitman, L. J. (2009). *Principles of Managerial finance* (12th ed.). Bostos, MA: Pearson Prentice Hall
- Goddard, J., P. Molyneux & J. Wilson (2004). The profitability of European banks: A cross-sectional and dynamic panel analysis, *The Manchester School*, 72, 363-81
- Goel, U., Bansal, N., & Sharma, A. K. (2015). Impact of Corporate Governance Practices on Working Capital Management Efficiency: A Structural Equation Modelling Approach. *Indian Journal of Finance*, 9(1), 38–48
- Grosse-Ruyken, P. T., Wagner, S. M. & Jönke, R., (2011). What is the right cash conversion cycle for your supply chain?, *Int. J. Services and Operations Management*, 10, 1, pp. 13-29.
- Grover, Vijay. (2015). Research Approach: An Overview. *Golden Research Thoughts*. 4. 1-8.
- Hendriksen S. E. & Michael, F. V. (1992). *Accounting theory* fifth edition, R. R. Donnelly & Sons Company
- Hooley, G., & Greenley, G (2005). The Resource Underpinnings of Competitive Positions, *Journal of Strategic Marketing*, 13 (2): 93-116.)

- Hopkins, T. (2009), Debtor Management for Small to Medium Sized Business, Business and Commercial Law, *International Journal of Management and Decision Making* 6(4), 213-231
- Hoque, A., Mia, A., & Anwar, R. (2015). Working Capital Management and Profitability: A Study on Cement Industry in Bangladesh. *Research Journal of Finance and Accounting*, 6(7), 18-28.
- Joshi, R. (2013). Working Capital Management of Commercial Banks in Nepal: Being an M.sc. Thesis submitted to faculty of management Tribhuvan University, Shankar Dev. Campus, Kathmadu
- Karger, J., & Blementhal, R. A. (1994). Leverage Impact on Working Capital in Small Business. *TMA Journal* 14(6): 46-53.
- Kavitha, N. (2007). "Understanding of Working Capital," Faculty Column. (Accessed on 27th January, 2010) <https://www.indianmba.com/>
- Khan, M. Y & Jain, P.J. (2007). *Financial Management: Tax, Problems and Cases*. 5th ed, Tata, MC Graw Hill Publishing Company Limited
- Kiarie, N. (2013). The Effect of Working Capital Management on Profitability of Manufacturing Companies Listed at Nairobi Securities Exchange. *Journal of Business Administration and Management Sciences Research*, 2(3), 30–35
- Kieschnick, R, Laplante, M, & Moussawi, R., (2013). Working Capital Management and Shareholders' Wealth, *Review Of Finance*, 17, 5, pp. 1827-1852
- Kimeli, S.K. (2012). Analysis of effects of working capital management on profitability of manufacturing companies: A Case study of listed manufacturing companies on Nairobi Securities Exchange

- Knauer, T., & Wöhrmann, A. (2013). Working capital management and firm profitability. *Journal of Management Control*, 24(1), 77-87.
- Kodithuwakku, S. (2015). Impact of Working Capital Management on Profitability: A Study on Listed Manufacturing Companies in Colombo Stock Exchange. Proceedings of 12<sup>th</sup> International Conference on Business Management (pp. 1-13). Colombo: SSRN
- Korankye, T. & Adarquah, S. R. (2013). Empirical Analysis of Working Capital Management and its Impact on the Profitability of Listed Manufacturing Firms in Ghana. *Research Journal of Finance and Accounting*, 4(1), 124–132
- Korankye, T., & Adarquah, R.S. (2013). Empirical analysis of working capital management and its impact on the profitability of listed manufacturing firms in Ghana. *Research Journal of Finance and Accounting*, 4(1), 124-132.
- Kraus, A., & Litzenberger, R. (1973). A state-preference model of optimal financial leverage. *The Journal of finance*, 911-922.
- Makadok, R. (2001). Toward a Synthesis of the Resource-Based and Dynamic-Capability Views of Rent creation. *Strategic Management Journal*, 22(5), 387-401.
- Makori, D., & Jagonga, A. (2013). Working Capital Management and Firm Profitability: Empirical Evidence from Manufacturing firms listed on Nairobi Securities Exchange Kenya,. *International Journal of Accounting and Taxation*, 1(1), 1- 14.
- Marsh, C. (2009), *Mastering financial management: A step-by-step guide to strategies, applications and skills*. Harlow: Pearson Education Limited
- Marx, K. (1867) *Das Kapital, Kritik der politischen Ökonomie, Band I, Der Produktionsprozess der Kapitals*; MEW 23; English trans. *Ben Fowkes, Capital, A Critique of Political Economy*, Volume One, Penguin Books, Harmondsworth, 1976

- Mawhiraju, H. R. (1999). Project Finance. Vikas Publishing House P. V. T Ltd
- Mawutor, J. & Awah. F. (2014). Assessment of Efficiency and Profitability of Listed Banks in Ghana. *Accounting and Finance Research*. 4. 10.5430/afr.v4n1p164.
- Mazanai, M. N. (2012). Impact of just-in-time (JIT) inventory system on efficiency, quality and flexibility among manufacturing sector, small and medium enterprise (SMEs) in South Africa. *African Journal of Business Management*, 6(17), 5786 - 5791
- Mengesha, W., Seyoum, A., & Gizaw, M. (2014). Impact of Working Capital Management on Firms' Performance: The Case of Selected Metal Manufacturing Companies in Addis Ababa, Ethiopia
- Michalski, G. (2009). Inventory management optimization as part of operational risk management. *Economic Computation and Economic Cybernetics Studies and Research*, 213-222.
- Miller, M. H. & Daniel, O. (1966). A Model of the Demand for Money by Firms. In: *The Quarterly Journal of Economics* 80.3, pp. 413-435.
- Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: a correction. *The American Economic Review*, 433-443.
- Mohamad. N & Saad. N (2010). Working Capital Management: The Effects of Profitability in Malaysia, *International Journal of Business*, vol. 5, no. 11, pp. 140-147.
- Mong'o, G. (2010). The relationship between cash-flows and profitability of commercial banks in Kenya. Unpublished MBA Project, University of Nairobi
- Mowen, M., Hansen, D. & Heitger, D. (2011). *Cornerstones of Managerial Accounting*. 6th Edition. Cengage Learning
- Mugenda, O. M. & Mugenda, A. G. (2003). *Research Methods: Quantitative and Qualitative Approaches*. Nairobi: Acts Press.

- Mukhopadhyay, D. (2004). Working capital management in heavy engineering firms – A case study. *Management Accountant*, 39(4), 317–323.
- Muya, W. T. & Gathogo, G. (2016), Effect Of Working Capital Management On The Profitability Of Manufacturing Firms In Nakuru Town, Kenya. *International Journal of Economics, Commerce and Management*. Vol. IV, Issue 4, ISSN 2348 0386
- Myers. (1990). *Classical and modern regression with applications*. Boston: PWS-Kent.
- Napompech, K. (2012). Effects of Working Capital Management on the Profitability of Thai Listed Firms. *International Journal of Trade, Economics and Finance*, 3(3), 227- 232
- Naser, K. & Mokhtar, M. Z. (2004). Determinants of Corporate Performance of Malaysian Companies. *Proceedings of the 2004 Fourth Asia Pacific Interdisciplinary Research in Accounting Conference*, Singapore, 16-25.
- Nazir, M. S. & Afza, T. (2009). Working Capital Requirements and the Determining Factors in Pakistan. *IUP Journal of Applied Finance*. 15(4), 28-38
- Njoku, G. C. (2017). The impact of corporate governance on working capital management in Nigerian organizations. Doctoral Thesis: Walden Dissertations and Doctoral Studies Collection at Scholar Works, Walden University
- Nobanee, H., & Al Hajjar, M. (2009). Working Capital Management and Firm's Profitability: An Optimal Cash Conversion Cycle. *Asian Review of Accounting*, Vol. 19 No. 2, pp. 147-156.
- Nobanee, H., (2009). Working Capital Management and Firm's Profitability: An Optimal Cash Conversion Cycle, Department of Banking and Finance, The Hashemite University
- Nothangel, K. (2008). Empirical Research Within Resource-Based Theory: A Meta-Analysis of the Central Propositions. Springer Science & Business Media

- Nwankwo, O., & Osho, G. S. (2010). An empirical analysis of corporate survival and growth: Evidence from efficient working capital management. *International Journal of Scholarly Academic Intellectual Diversity*, 12(1), 1–13
- Ogbo, A. I. (2011). *Production and Operations Management*. Enugu: De-verge Agencies Ltd. ISBN: 978-912-7533. Enugu; De-Verge Agencies Ltd
- Osisioma, B. C. (1997). Sources and management of working capital. *Journal of Management Sciences*, Awka: Vol 2. January
- Osuma, G. & Ikpefan, O. (2018) Working capital management and bank performance: empirical research of ten deposit money banks in Nigeria. *Banks and Bank Systems*, 13 (2), 49-61.
- Ozkan, A. & Ozkan, N. (2004). Corporate cash holdings: an empirical investigation of Uk companies. *Journal of Banking and Finance*, 2, 2103- 2134
- Padachi K (2006). Trends in Working Capital Management and its impact on Firms' Performance: An analysis of Mauritian Small Manufacturing Firms, *Int. Rev. Bus. Res. Papers*. 2(2):45-58.
- Pais, M.A., & Gama, P.M. (2015). Working capital management and SMEs profitability: Portuguese evidence. *International Journal of Managerial Finance*, 11(3), 341-358
- Pallant, J. (2013). *SPSS Survival Manual*. UK: McGraw-Hill Education
- Pandey, I. M. (2010). *Financial Management* (10 ed.). New Delhi: VIKAS Publishing House PVT Ltd.
- Park C & Gladson J.W. (1963). *Working Capital*. The Macmillan Co, New York, 1963.
- Peel, M. J. & Wilson, N. (1996). Working capital and financial management practices in the small firm sector, *International Small Business Journal*, 14(2), 52-68

- Penman, S.H., (2013), *Financial Statement Analysis and Security Valuation*, 5th Ed.”,McGraw Hill, Singapore
- Ponsian, N., Chrispina, K., Tago, G., & Mkiibi. H. (2014).The effect of working capital management on profitability. *International Journal of Economics, Finance and Management Sciences*, 2(6), 347-355
- Pouraghajan, A., & Emamgholipurarchi, M., (2012), Impact of working capital management on profitability and market evaluation: evidence from Tehran Stock Exchange, *International Journal of Business and Social Science*, 3 (10), 311-318
- Prempeh, K. B. (2016). The Impact of Efficient Inventory Management on Profitability: Evidence from Selected Manufacturing Firms in Ghana. *International Journal of Finance and Accounting*, 5(1), 22-26. DOI: 10.5923/j.ijfa.20160501.03
- PricewaterhouseCoopers (Ghana) Limited (2019). 2019 Ghana Banking Survey. Banking reforms so far: topmost issues on the minds of bank CEOs. August 2019. Published by PricewaterhouseCoopers (Ghana) Limited <https://www.pwc.com/gh/en/assets/pdf/ghana-banking-survey-2019.pdf>
- Raheman, A. & Mohamed, N. (2007). Working Capital Management and Profitability Case of Pakistani firms. *International Review of Business Research Paper*, 3(1), pp.279-300.
- Raheman, A., Dr. Qayyum, A., & Afza, T. (2011). Sector-wise Performance of Working Capital Management Measures and Profitability Using Ratio Analysis. *Interdisciplinary Journal of Contemporary Research in Business*, December 2011 Vole 3, No 8.
- Reddy, B. M. (2015). Trade of between Liquidity and Profitability: A study on TATA Steel Ltd. *International Journal of Commerce, Business and Management*, 4(2), 1096–1100.

- Richards, V., & Laughlin, E. (1980). A Cash Conversion Cycle Approach to Liquidity Analysis. *Financial Management*, 9(1), 32 – 38
- Ross, S. A., Westerfield, R. W., & Jordan, B. D., (2008), *Essentials of Corporate Finance*, Sixth Edition, McGraw-Hill, ISBN: 987-0-07-128340-3.
- Ross, S.A., Westerfield, R.W. & Jordan, B.D. (2010). *Fundamentals of Corporate Finance*, Ninth Edition (Alternate Edition). McGraw-Hill/Irwin.
- Sanger, J. (2011), *Essential of working capital management*, New Jersey: John Wiley & Sons. 1st edition, Pp.133
- Saunders, M. N. K., Lewis, P., & Thornhill, A. (2012). *Research methods for business students* (6th ed.). Harlow, England: Pearson Education
- Schaum, M. (2011). *Financial Management*. Pauline's Publications Africa. 2nd Edition,
- Scherr, F.C., (1989). *Modern working capital management; text and cases*. USA. Prentice-Hall Inc
- Sharma, A., & Kumar, S. (2011). Effect of Working Capital Management on firms Profitability: Empirical evidence from India. *Journal of Global Business Review*, 12(1),159 -173.
- Shin, H. H. & Soenen, L., (1998). Efficiency of Working Capital Management and Corporate Profitability, *Financial Practice & Education*, 8, 2, pp. 37-45
- Singh, P. (2008). Inventory and Working Capital Management: An Empirical Analysis, The IUP *Journal of Accounting Research and Audit Practices*, IUP Publications, vol. 2, pages 53-73, April.
- Skousen, S. (1984). *Intermediate Accounting*; Cincinnati-Ohio: South Western Publication
- Smith, K. (1980). Profitability versus Liquidity Tradeoffs in Working Capital Management, in readings on the Management of Working Capital". New York: St. Paul, West Publishing Company

- Sundgren, A. & Schneeweis, T. (2010). Measures of financial performance, 5th edition, Armstrong Publisher, Amsterdam: Germany
- Talonpoika, A. M., Monto, S., Pirttila, M., & Karri, T. (2014). Modifying the cash conversion cycle: revealing concealed advance payments. *International Journal of Productivity and Performance Management*, 63(3), 341-353
- Upadhyay, S., Sen, B., & Smith, D. (2015). The cash conversion cycle and profitability. A study of hospitals in the state of Washington. *The Journal of Health Care Finance*, 41(4)
- Vahid, T. K. Mohsen, A. K. & Mohammadreza, E. (2012). The Impact of Working Capital Management Policies on Firm's Profitability and Value: Evidence from Iranian companies; *International Research Journal of Finance and Economics*, 88, 155-162
- Van Horne, J. C. (1995). *Financial Management and Policy*. Tenth Edition, Englewood Cliffs: Prentice Hall.
- Van Horne, J.C, & Wachowicz, J.M., (1995). *Fundamentals of Financial Management*, Prentice Hall, Englewood Cliffs, NJ
- Van-Horne, J. C & Wachowicz, J. M. (2004). *Fundamentals of Financial Management*, 12th Edition, USA: Prentice Hall Publishers.
- Vineet, K. & Sukhdev, S. (2013). Managing Efficiency and Profitability Through Working Capital: An Empirical Analysis of BSE 200 Companies, *Asian Journal of Business Management* 5(2):197-207
- Viskari, S., Lind, L., Kärri, T., & Schupp, F. (2012). Using working capital management to improve profitability in the value chain of automotive industry. *International Journal of Services and Operations Management*, 13(1), 42

- Wasiuzzaman, S., & Veeri, C. A. (2013). Determinants of Working Capital Investment: A Study of Malaysian Public Listed Firms. *Australasian Accounting Business & Finance Journal*, 7(2): 63-83
- Waithaka, A. (2012). The relationship between working capital management practices and financial performance of agricultural companies listed at the Nairobi Securities Exchange. Masters thesis, The University of Nairobi 2012. Pp 71
- Wambugu, P. M. (2013). Effect of Working Capital Management Practices on Profitability of Small and Medium Enterprises in Nairobi County, Kenya. Unpublished MBA Thesis, School of Business, Kenyatta University, Kenya
- Weston, J.F., & Eugene F.B. (1979). *Essentials of Managerial Finance* (5th Ed.). Hinsdale: The Dryden Press
- Wignaraja, G. & O'Neil, S. (1999). "A Study of Small Firm Exports, Policies and Support Institutions in Mauritius" Export and Industrial Development Division: Commonwealth Secretariat.
- Yahaya, A., & Bala, H. (2015). Working Capital Management and Financial Performance of Deposit Money Banks. *Research Journal of Finance and Accounting*, 6(16), 57-71.
- Yeboah, B., & Yeboah, M. (2014). The Effect of Working Capital Management of Ghana Banks on Profitability: Panel Approach. *International Journal of Business and Social Science*, 5(10), 294-306
- Zikis, M. I. (2009). *Investment Policy in Developing Nations*. Essex: Pearson Education Limited
- Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business research methods*. Mason: South Western Cengage Learning

## APPENDIX

### Summary of Relevant Financial Statements of ADB Bank

Year	Total Equity	Total Assets	Total Liabilities	EBIT
	GHC 000	GHC 000	GHC 000	GHC 000
2009	121,617	734,595	612,948	12,667
2010	143,246	1,005,897	862,650	33,215
2011	176,164	1,205,757	1,029,593	45,903
2012	197,199	1,444,223	1,247,024	26,696
2013	280,995	1,621,761	1,340,766	83,928
2014	343,814	2,156,740	1,812,925	34,670
2015	332,893	2,134,147	1,801,254	-100,197
2016	454,778	3,035,493	2,580,715	-105,714
2017	479,013	3,545,143	3,066,130	47,339
2018	639,711	3,597,395	2,957,684	34,057
2019	793,384	4,577,659	3,784,275	17,884

### Summary of Relevant Financial Statements of GCB Bank

Year	Total Equity	Total Assets	Total Liabilities	EBIT
	GHC 000	GHC 000	GHC 000	GHC 000
2009	198,830	1,917,083	1,718,252	19,623
2010	173,623	2,076,361	1,902,738	68,611
2011	169,437	2,454,564	2,285,091	29,681
2012	282,547	2,972,068	2,689,521	188,399
2013	447,156	3,391,100	2,943,944	311,223
2014	659,896	4,232,819	3,572,923	382,436
2015	816,617	4,629,588	3,812,971	350,276
2016	1,015,112	6,049,604	5,034,492	446,782
2017	1,113,150	9,558,151	8,445,001	308,894
2018	1,325,417	10,635,051	9,309,634	446,382
2019	1,652,054	12,416,741	10,764,687	564,653

### Summary of Relevant Financial Statements of CAL Bank

Year	Total Equity	Total Assets	Total Liabilities	EBIT
	GHC 000	GHC 000	GHC 000	GHC 000
2009	57,014	450,470	393,456	10,965
2010	76,519	499,751	423,232	11,660
2011	92,921	786,063	693,142	24,584
2012	204,044	1,159,345	955,301	64,335
2013	282,193	1,558,962	1,276,770	125,439
2014	392,320	2,707,542	2,315,222	194,386
2015	505,863	3,351,039	2,845,176	213,197
2016	502,768	3,599,355	3,096,587	12,085
2017	647,427	4,212,638	3,565,211	208,337
2018	764,572	5,405,856	4,641,284	230,353
2019	960,867	7,039,780	6,078,913	241,951

